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# THE LARYNGOSCOPE

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## NOSE-THROAT-EAR

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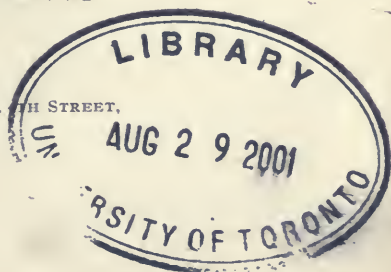
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## ORIGINAL COMMUNICATIONS.

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### APPROPRIATE TREATMENT OF CERTAIN VARIETIES OF NASAL DEFLECTIONS AND REDUNDANCY.\*

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It is not my purpose to review the entire subject of nasal deflections, with the various methods of correction by surgical procedure; the field has been too thoroughly gone over within the last few years to necessitate repetition. The object of the paper is to call attention to certain varieties of deflections, with treatment suited to each peculiar variety. It is impossible to formulate rules for the correction of deformities which are applicable in all cases; the location of the deformity, the contour of the nasal cavities, the thickness of the nasal septum, the general systemic condition of the individual necessarily controls in individual cases, the variety of operation to be employed; indeed, each individual case will necessitate the modification of our own method. The drawings, as shown in Fig. 1, illustrate the variety of deflection with which this paper has to deal.

#### VARIETIES.

The varieties of deflection considered in this paper are:

1. The split cartilaginous septum with bulging into both nostrils, as shown in Fig. 1 (7).
2. Dislocation of the columnar cartilage.

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\*Read before the American Laryngological, Rhinological and Otological Medical Association, Cincinnati, Ohio, June, 1899.

3. Simple deflection in which the cartilage is very thin.
4. The letter S deflection.
5. Deflection of the cartilage with involvement of the bony septum.
6. Deflection due to the splitting of the cartilage with bulging on one side only.
7. Deflection in which there is redundancy of tissue overlapping the septum and extending close to the floor of the nose.

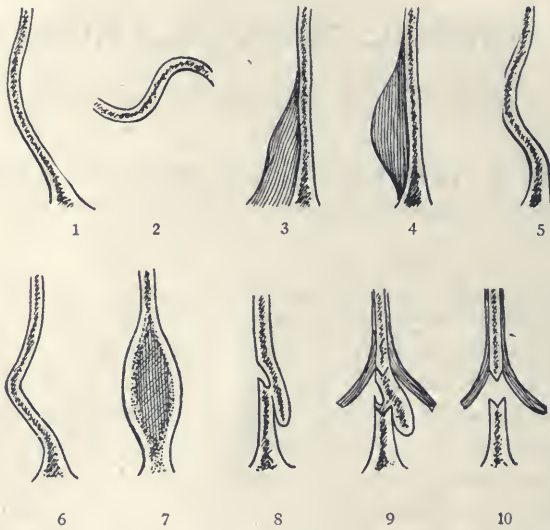


Fig. 1.

## DEFORMITIES OF THE SEPTUM.

In a perfectly formed nostril the septum should be perpendicular to the floor of the nose, separating the two cavities into chambers of equal dimensions. As a rule, however, there is a slight difference in the size of the two nostrils, the septum frequently deflecting slightly to one side. This may become more pronounced in adult life, owing to irregular change within the cartilaginous structure. The tendency to deviation is also increased by inflammatory processes. It is almost impossible to describe the various deviations or deflections of the septum, as each individual case will present slightly different features. The curvature in the septum may be either



longitudinal or perpendicular. It may be a single curvature, as shown in Fig. 1 (1), or it may be of the letter S or scroll-shaped variety, as shown in Fig. 1 (2). It may be limited to the cartilaginous portion or may involve both cartilage and bone, rarely ever involving the bony septum alone. Fig. 1 (6) shows some of the various deflections with and without redundancy. As to the general causes deflections may be divided into (1) Deviation or deflection from disease; (2) Traumatic deflection; (3) Congenital deflection.

1. *Deviation or Deflection from Disease.* Deflection of the septum may be brought about by disease occurring directly in the structure, or as a secondary condition depending entirely upon some constitutional lesion. Inflammatory processes, involving the mucous membrane lining the cartilage, may so weaken it as to permit of slight deflection. This is especially true in purulent rhinitis in children, also in the strumous and the rachitic diathesis. Atrophic rhinitis has been granted by some authors as a possible cause of deflection. It is possible that in the early stage of the inflammatory process the cartilage, owing to its inflamed condition and possibly to its irregular, uneven development from muscular action of the external nasal muscle, may be slightly deflected. However, I think, as a rule, the deflection existed before the atrophic rhinitis and was more an exciting factor than a result of that process. Deviations may also follow in childhood upon disease of the teeth, especially during first dentition; and, if early recognized, many cases might be prevented.

Superficial ulceration in syphilis, tuberculosis and lupus without actual perforation may cause deflection and deformity. Simple ulceration, as well as ulceration following diphtheria and typhoid fever, are also exciting factors in deflection. Perichondritis, whether associated with any specific inflammation or not, may result in deflection. Enlarged turbinated bones by pressure on the septum, with the resulting inflammatory changes, will produce deflection; the same can be said of the tumors. In uric-acid diathesis there is pronounced irritation of the mucous membrane, which may result in peri-chondritis and tend toward deflection. Deviation due to simple abscess of the septum presents a very small scar on the surface, while that due to a specific process will present considerable scar tissue (pug-nose). Perichondritis, regardless of the cause, may result in the destruction of a portion of the cartilage, leaving the soft parts intact; yet sufficient of the cartilage is destroyed to give marked deviation and deformity.

2. *Traumatic Deflection.* Deviation of the septum from injury occurs most frequently in childhood, although it may not be recognized until adult life. Children are subjected more often to injury of the nose, and at the same time little attention may be given to trauma, which may later result in a serious deflection. Owing to the flexibility of the cartilaginous septum, blows of sufficient force to cause deflection of this structure must necessarily involve the bony septum. Great difficulty may be experienced in determining the cause of the deflection, yet frequently when the patient is conscious of the obstruction or irregularity of his nostril he will state that it followed a severe blow on the nose. Such an injury may occur in a child that is not of sufficient age to recognize the importance of nasal breathing. Through fear of treatment it may say nothing about the injury, although the deflection or the thickening produced by the callus, thrown out after the fracture of the bone or cartilage, may almost obstruct nasal breathing on one or other sides. In any variety of deflection the deformity may be purely internal, although in deflections due to blows it is usually noticeable externally. The direction of the blow and its force determine the degree and variety of deflection. A peculiar case, illustrating the effect of a blow on the nose, I observed in my private practice.

A young man, twenty-two years of age, while playing foot-ball, received a severe blow directly on the nose by colliding with the head of an opposing player. The injury was followed by considerable external swelling, but in the course of a few days all external inflammatory symptoms had disappeared. However, the obstruction to the nasal breathing continued, although after some two or three weeks, when the internal swelling had entirely subsided, there was considerable improvement in this as well. When examined some three months afterward, practically no external deformity was noticed, there being no change in the facial contour. Rhinoscopic examination, however, revealed the cartilaginous septum bulging into each nostril, occupying at least two-thirds of each nasal space. By pressure within each nostril the cartilage could be pushed back to the median line. The force of the blow had simply separated or split the cartilaginous septum (Fig. 1 (7)). This was crushed sufficiently to permit of its being easily held in position and sufficient irritation set up to produce an inflammatory exudate between the two layers to allow union, which was held in position by the author's modified Mayer's tube, as described in Fig. 2. Traumatic deflection and deformity may be of sufficient gravity to necessitate extensive surgical interference. This is especially true when the bony nasal framework is involved.



A deflection of traumatic origin frequently occurs just within the nasal orifices. The irregularity of the cartilaginous septum itself being slight, the deflection is due entirely to a dislocation of the anterior end of the septum from the *columnar cartilage*. Owing to its location the deflection is sufficient to cause obstruction to nasal breathing. It shows as a prominence with a smooth covering of thin mucous membrane, which is usually slightly inflamed owing to the mechanical irritation necessarily produced by its unnatural location. It is situated just within the anterior nares and extends to the mucocutaneous surface. There is a slight depression in the opposite nostril, corresponding to the prominence. The prominence is often seen without the aid of the nasal specula. While this deflection is

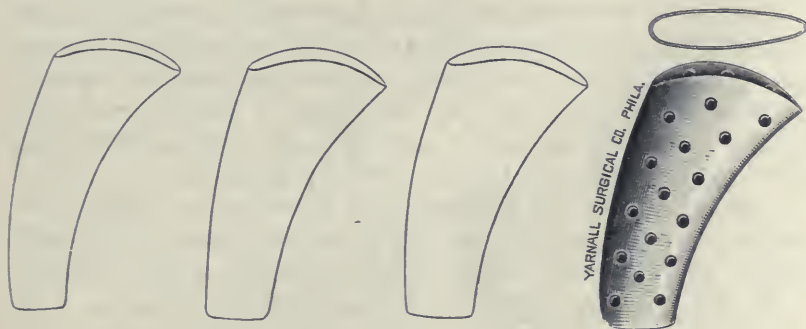


Fig. 2.

usually the result of injury, it is frequently met with as a consequence of disease or as a malformation in the sense of irregular development. The dislocation may produce deformity, the tip of the nose often drooping or deflecting slightly to one side.

Slight dislocation occurs in a larger percentage of cases than is usually believed. The condition is rarely, if ever, of such gravity as to require surgical interference, unless it is associated with deformity of the cartilaginous or bony septum. If the cartilage is split, and the depression on the opposite side is slight, the obstructing cartilage should be removed. This can be done without fear of the tip of the nose drooping if the opposite side be intact. The mucous membrane should be dissected free from the cartilage, the cartilage removed and the flap is then allowed to drop in position. Owing to

the vascularity of the tissue it will rapidly repair, and it is not necessary to stitch the membrane in position. The surface should be kept clean with warm boric-acid solution, 10 grs. to the ounce, and the nostril should be loosely packed with cotton saturated with hydrogen peroxid—for protection and not pressure.

3. *Congenital Deflection.* I believe that many cases of the so-called congenital deformity of the bones of the nose are due to the fact that at birth during labor, owing to the position of the head in the birth canal, considerable pressure has been exerted on the soft, almost cartilaginous, bones of the nose. It is a well-known fact that much can be done toward the shaping of the nose at this time.

Again, that the free passage of air through the nostril has much to do with the regular development of the nasal fossa, as well as the formation of the superior arch and the asymetry of the facial bones, I have frequently observed to be true. This is well illustrated in the irregular facial deformity, especially of the superior maxillary bones with irregular development of the teeth, which is seen when the nasopharynx is obstructed in early life by adenoid vegetations. The poor breathing through the nose allows the bones so to form as to produce the narrow slit-like orifice, and often the high V-shaped hard palate, so commonly found in the mouth-breathers.

Again, in the constant sniffing which is noticed in children with obstructed nasal breathing, a continual drawing down of the facial muscles, while the bony union is taking place, will cause narrowing of the arch and give a peculiar dish-faced expression.

I believe that the importance of the effect of perfect nasal respiration in early childhood on the regular formation and shape of the nasal cavities, thereby controlling the facial expression, cannot be overestimated. At least, observation shows that individuals who in childhood have perfect respiration have a regularly formed upper jaw, regularly formed teeth, with perfect facial contour, while those with imperfect nasal respiration show exactly the opposite. I assert, then, that what is often termed malformation or congenital deformity is, in reality, developmental deformity, brought about by imperfect nasal respiration, or imperfect and irregular development due to bad systemic nutrition or dyscrasia. The worst feature of these developmental deformities is that, unless perfect nasal respiration is established *early in life*—i. e., before the fifth or sixth year, or not later than the seventh—the bony and cartilaginous framework becomes so firm that little can be done toward increasing the nasal space for breathing, and the individual will of necessity be a mouth-breather for life.

*Treatment.* To give a plan of treatment that would be applicable to all cases of deviation and deflection would be impossible. Many methods have been advanced, and there are many modifications of the various methods presented, which are in reality only some modification of Adams' original operation. Yet each individual case with its own peculiarities and variations demands its own special modification of treatment.

There is a variety of deflection, involving only the cartilaginous portion, which is very thin and flexible. Fig. 1 (1). By inserting the finger into the nostril the septum may be straightened back to the perpendicular. In such cases it is not necessary to lacerate in any way by holding it in position with pins or by cutting it to weaken it, so as to be held more readily in position. The plan which I have found very successful—merely a modification of the pressure-method suggested by Quelnalz—is in the use of a flexible or rather malleable tube, which is shaped first to fit the deflection, then by gradually widening the tube there is gradual pressure brought to bear on the deflected part, producing slow inflammatory process. The tubes, as shown in Fig. 2, are inexpensive, and should be made to suit each case. The calibre of the tube is increased or diminished to suit the amount of pressure required. As a rule it will necessitate the wearing of the tube from four to twelve hours each day for two or three weeks, although frequently it can be left out as long as three or four days at a time. The tube should never be allowed to remain in sufficiently long to produce ulceration, but, if the directions given above are followed as to the length of time it should remain in position, ulceration will not occur. This gradual pressure will from inflammatory organization thicken the septum, increasing its strength.

Deflection of the septum does not always demand surgical interference. While any irregularity in size or unevenness of the contour will tend to promote catarrhal conditions, yet, if there is sufficient space for the free passage of air, operative interference is not demanded.

If the deflection is limited to the cartilage and presents a regular convex and concave curvature, removal of tissue will not be necessary; but in the regular letter S curvature, Fig. 1 (2), in which the septum is almost folded on itself, causing redundant tissue, the mass cannot be forced back and retained in position, and will necessitate surgical interference. In the simple curvature, Fig. 1 (1), *without redundant tissue*, in which the septum is thick and firm, I have found the following method to be most satisfactory. If the curve extends



to the floor of the nostril, or the junction of the cartilage with the superior maxilla, a cut should be made on the opposite side from the deflection, close to the base and extending through the mucous membrane to the cartilage. Then by means of the nasal saw (Fig. 3),

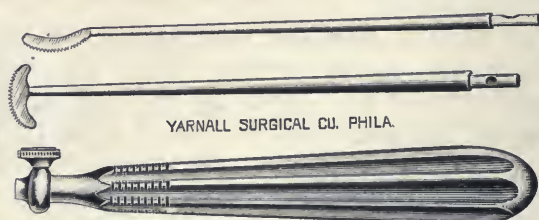


Fig. 3. Nasal Saw.

the cartilage should be cut to about one-third its thickness. If, however, the curvature does not extend to the floor, this incision may be omitted. The patient should be anesthetized, and by the use of the forceps, shown in Fig. 4, the cartilaginous septum is fractured or

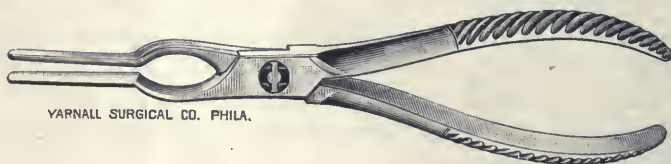


Fig. 4. Nasal Forceps.

crushed by rolling the forceps. The rounded blades prevent laceration of the tissue. This will permit of the moulding of the septum into the desired shape and position. It should then be retained in position by means of the tubes described in Fig. 2. If within the first twenty-four to forty-eight hours there are marked swelling and edema, the tube should not remain in position, as the parts can easily be moulded up to this time, since no inflammatory organization will take place under forty-eight hours. If, however, the swelling is not marked, the tube may be left in position from the first. The diameter can be controlled by the pressure and support desired. While

the tube is in position the nostril should be flushed every two to four hours, depending on the amount of secretion, with a tepid solution composed of boric acid, 10 grains; carbolic acid, 2 drops to the ounce of tepid water. Until the fifth or sixth day, should there be considerable swelling, causing marked pressure, the tube should be removed from the nostril daily and allowed to remain out at least eight to ten hours; this will prevent any likelihood of ulceration. Should this same curvature extend back to the bony framework, the same method should be employed, except that in order to *control the line of fracture* of the bony septum after cutting through the mucous membrane, the bone should be sawed by means of the curved nasal saw, shown in Fig. 3, at least one-third its thickness. This should be done at two points so as to divide the septum into equal thirds, (Fig. 5). The line of fracture will thereby be controlled, as

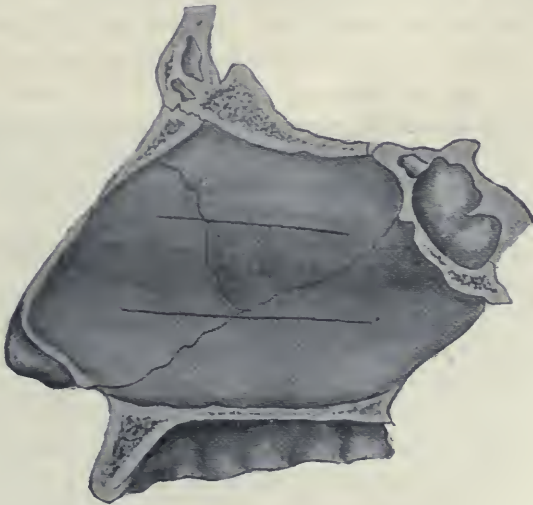


Fig. 5.

the septum is crushed by the rolling forceps. If the bony portion is thick and firm, the incision may have to be made deeper than one-third. If more force is required to correct the deformity than can be exerted by the rolling forceps, the dilating forceps should be used. The septum should be retained in position in the same manner as described above. If the deflection is a vertical one of the triangular or V-shaped variety, before crushing, two vertical in-



cisions should be made two-thirds of the entire perpendicular length, dividing the deflection into equal thirds. This can be done by means of the saw shown in Fig. 3. The straightening of the septum and its retention in position can be accomplished as described above. As a rule, in deflection or deviation of the septum there will be found, in the large nostril, or that corresponding to the concavity of the septum, enlarged turbinates with thickened mucous membranes. These should be removed before the septum is straightened; otherwise, when it is forced back into position and the obstructed nostril relieved, there will be produced obstruction in the opposite nostril, or merely a transference of obstruction from one side to the other.

The tubes described in Fig. 2 are modified after Mayer's or Asch's patterns, and differ very much in shape from the metal tube devised by Harrison Allen. The advantage of the tube seen in Fig. 2 is that it can be moulded to fit any nostril, and the pressure can be controlled. The metal is soft so as to allow its being cut very easily with an ordinary knife, in order that the tube may be shortened at will and adapted to individual cases; besides, the surface impinging against the septum is flat, thereby distributing and equalizing the pressure, with less likelihood of ulceration. The tube can be indented to fit any projecting point on the septum, lessening danger of ulceration from pressure. The outer surface may be also rounded and moulded to fit the turbinal surfaces so as not to permit of excessive pressure on any one point.

While I am aware that the method given above demands considerable attention on the part of the operator, yet from my own experience with the various other procedures employed for the variety of deflection given, I find none so satisfactory. In thirty-seven cases I have had failure in six. Two were cases where there was redundant or excessive stricture, in which, owing to the excess of tissue, the septum could not be forced back and held in the median line. In three cases I did not sufficiently crush and weaken the septum, and the pressure was so great from the nasal tube that ulceration was threatened, necessitating the removal of the tube. Unfortunately, the tube could not be retained in position long enough to support and hold the septum in the perpendicular line. This necessitated a secondary operation, in which the septum was more thoroughly crushed. In another case, the deviation was not only cartilaginous, but extended into the bony structure. Two days after operation the case was complicated with an attack of grippe. On account of the suffering of the patient from the combined condition, I deemed it advisable to remove the tube, which exerted sufficient pressure to

retain the fractured bone and cartilage in the correct position, I was compelled to use a smaller tube, and, although the result was fairly good, yet the complete establishment of normal, nasal respiration was not accomplished.



Fig. 6.

Another variety of deflection of the septum occurs, in which there seems to have been splitting of the two halves, with bulging on only one side (Fig. 6). the opposite side being almost perpendicular.

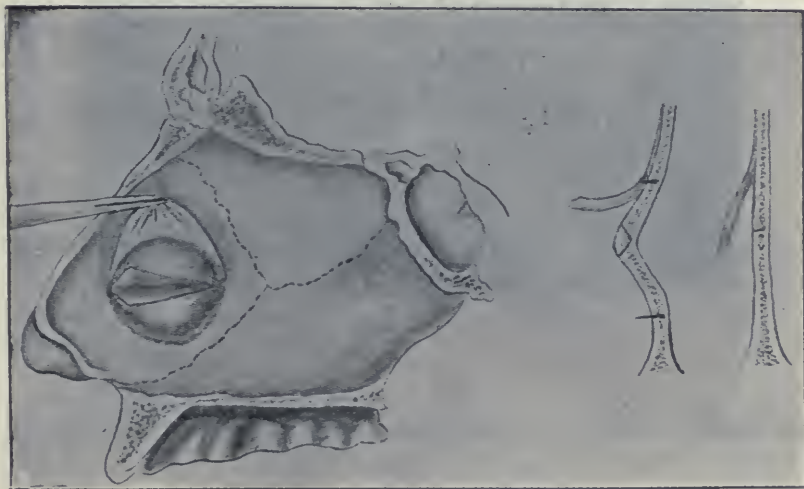


Fig. 7.

The deflected portion assumes an acute angle, the apex of which is markedly thickened. In such deflections all that is necessary is that a semi-circular incision be made from the under portion of the projection (Fig. 7), the mucous membrane dissected up, and the under-

lying cartilaginous or bony projection sawed off. Great care should be taken not to penetrate the septum or injure the mucous membrane or blood supply of the opposite side, thereby lessening the danger of ulceration or perforation.

In cases of deviation or deflection of the cartilaginous septum, in which there is redundant tissue, the cause of failure in operations has been due in most instances to failure in removal of this redundancy. There is too much tissue for the space into which it has been crowded, and hence, when compressed or forced into a normal posi-

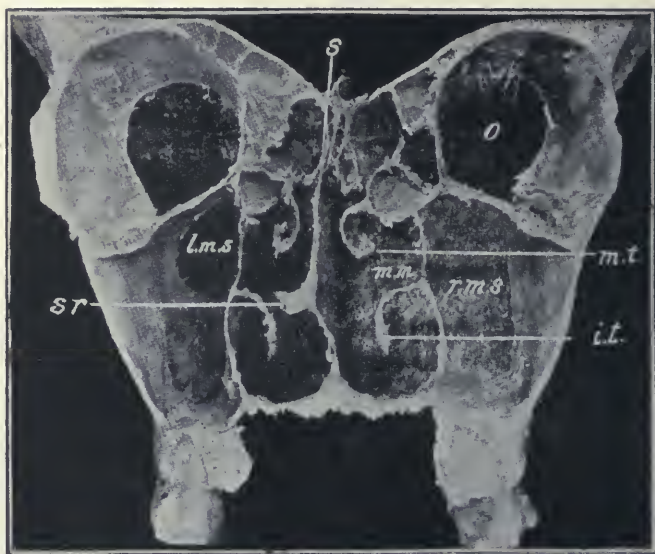


Fig. 8.

tion in the median line, its resiliency tends to force it back into its former abnormal position or an equally obstructive one. For the correction of such deformities, where the redundant tissue is limited to the cartilaginous portion, as seen in Fig. 1 (6), the mucous membrane should be dissected up and the V-shaped portion of the cartilaginous septum (Fig. 7), be removed, the amount removed depending on the extent of the redundancy. This should be done by sawing into the cartilaginous septum, being careful not to cut through the mucous membrane on the opposite side. This incision



in the cartilage may be made by means of the saw shown in Fig. 3, or the knife or gouge. After the V-shaped incisions are made, the detached portions of cartilage should be carefully dissected off by means of the dry dissector, although in many cases the detached piece of cartilage can be readily dissected by the use of the finger nail. The same method should be followed where spurs form, as shown in Fig. 8.

The after-treatment should consist in freeing the nostrils of any retained secretion, but better results are obtained if the parts are not irritated by repeated douching. Sterile water with 5 to 10 grains of boric acid will render the surface sufficiently clean.

Much of the success in treatment of straightening of the septum by the use of malleable metal tubes depends upon careful attention on the part of the operator. The patient should be seen frequently and the caliber of the tube altered, so as to prevent too long-continued pressure in one place, thereby lessening the danger of ulceration; for, if ulceration occurs from pressure, it will necessitate the removal of the tubes for a time sufficient to allow healing of the ulceration, and possibly cause failure to straighten the septum. The variety of the deflection shown in Fig. 1 (8) is frequently associated with lesions of the central incisors. This is especially true when the alveolar process of the upper jaw is thin and the tip of the root of the tooth is in close contact with the floor of the nose. The irritation produced by the accumulated secretion beneath the projection on the septum, causing perimetritis, and the method of correction of such deformity of the septum, is shown in Figs. 1 (9, 10).

Each deflection will require some modification from a given method, and no one operation will answer in all cases. This is shown by the many methods proposed. The conditions presenting, however, will necessitate a combination of methods rather than the following of any one method.

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## THE THERAPEUTIC EFFECTS OF VIBRATORY MASSAGE IN CHRONIC DEAFNESS.\*

BY PROF. OSTMANN, MARBURG.

In consequence of persistent occlusion of tube consecutive to otitis media there are often alterations in the conducting apparatus which resists the several treatments habitually employed. It is therefore our duty to test all the claims of progressive otology in such cases as are considered incurable. Vibratory massage as a therapeutic measure is one of these. Some otologists have rejected it without trial, others have preached it enthusiastically, but I think none have tested its entire scientific application. This essay is the outcome of my scientific studies of the mechanism of the various instruments for massage in use, and observation of their influence upon the sound conductive apparatus of the middle ear. "Experimental Examination of Massage of the Ear." (*Archiv. f. Ohrenheilk*, Band xlv and xlv, 1, 2).

It would have been interesting to have supplemented these investigations with examinations of pathologic specimens of sound conducting apparatus, but unfortunately I could obtain none.

In my clinical investigations of the curative effects of vibratory massage I have used patients afflicted with chronic deafness of the middle ear. All the patients observed were deaf for a number of years in variable degrees, and the different treatments to which they had been subjected had all failed. Through experiments upon the normal ear I discovered the most effective method of vibratory massage. Hirschmann, of Berlin, instrument was used. The masseur set for a 2 millimetre piston-stroke was applied daily. The revolutions were as fast as 1,000 to 1,200 ear-puffs were sent against the membrane. With one patient the sitting was prolonged to twenty-five minutes. To produce vibrations it is indispensable that the ear piece fit air tight into the meatus—the smallest escape nullifies the effect. The immediate sensation is never that of disagreeable irritation, only a sensation of slight fullness in the ear. Some affirm that there is a sensation of warmth which disappears usually in a quarter of an hour.

I have verified this method in four cases, three of old chronic otitis media, and one of sclerosis so accentuated that the patient

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\* Author's abstract of paper read at Sixth International Otological Congress, London, August, 1899.



had to employ lip-reading. In order to be assured of the beneficent action of vibratory massage I made careful functional examination of the commencement, and during the treatment, so as to arrive at just comparisons. With this end in view all objective changes in the ear, nose and throat were noted, and each ear tested by the continuous (tone) scale concerning the subjoined:

1. The upper and lower limits of hearing (known as "range of hearing").

2. The duration of hearing for C, c, c<sup>1</sup>, c<sup>2</sup>, c<sup>3</sup>, c<sup>4</sup>, c<sup>5</sup>, compared with normal.

3. The hearing capacity for tone conduction (Weber's and Schwabach's tests).

5. The hearing capacity for figures, 1 to 100 whispered, and words uttered in high, middle and low tones.

The results of the massage of the several cases were as follows: In none were there objective changes. The intense nosis perceived by all did not increase, but were rather diminished though they did not entirely cease. As before massage was begun great variations in the intensity of the nosis were observed, but the rule was that they did not regain their original loudness.

With certain patients the increase of hearing was increased downwards very much, a notable prolongation of the duration of the hearing of the octaves to c<sup>5</sup>.

Here are the details of the observations:

*Case 1. Ch. M. E. Catarrh*—Hearing power before commencement of massage:

*Range of* { R. ear from E of the great octave to O. 1 Galton.

*Hearing* { L. ear from # of the contra octave to O. 1 Galton.

*Duration of hearing*, for the octaves C to c<sup>4</sup> in comparison to normal, this being computed as 100 (see column 1 of the accompanying table, simple and oblique shading).

*Weber*, uncertain, rather to the left.

*Schwabach*, +5 sec.

*Rinne* { R.  
          { L.

*Whispered numbers*, { R. "8" at 15 cm.  
                              { L. "7" at 25 cm.

Both ears were massaged every day, and no other treatment employed. After four months treatment the duration for all octaves from C to c<sup>4</sup> had considerably increased; the lower limit of hearing had extended downwards in the right ear from E of the great octave to C of contra octave; in the left ear from G# to C of the contra octave.

*Case 2. Ch. M. E. Catarrh*—Hearing power before massage:

*Range*  $\left\{ \begin{array}{l} \text{R. from A of the subcontra octave to O.1 Galton.} \\ \text{L. from D of the great octave to O.1 Galton.} \end{array} \right.$

*Duration* for octaves C to  $c^4$  in comparison to the normal, the latter being computed as 100 (see Case 2, column 1 in the table simple oblique shading).

*Weber*, more to the left.

*Schwabach*, + 7 sec.

*Rinnie*  $\left\{ \begin{array}{l} \text{R. 16 sec.} \\ \text{L. 18 sec.} \end{array} \right.$

Whispered numbers (residual air):  $\left\{ \begin{array}{l} \text{R. "3" at 50 cm.} \\ \text{L. "3" at 5 cm.} \end{array} \right.$

Massage was now applied from September 9, 1898 to November 29, 1898. On the latter date the result was found to be:

*Range of hearing*; extended downwards, right, from A to C of the subcontra octave; left, from D of the great octave to E of the subcontra octave.

*Duration of hearing*, (see column 2, Case II) was increased for most tones not inconsiderably, though for a few it was decreased.

*Case III.* Hearing power before massage:

*Range*  $\left\{ \begin{array}{l} \text{R. from G to the great octave to 1 O. Galton.} \\ \text{L. from A of the contra octave to O.8 Galton.} \end{array} \right.$

*Duration of hearing*, from octaves C to  $c^4$  in comparison to the normal (the latter being computed as 100) see column 1 of Case III (simple oblique shading) in the table.

*Weber*, distinctly to the right.

*Schwabach*, + 14 sec.

*Rinnie*  $\left\{ \begin{array}{l} \text{R. } c^1-11 \text{ sec.} \\ \text{L. C-23 sec.} \end{array} \right.$

*Whisper*  $\left\{ \begin{array}{l} \text{R. "3" at 15 cm.} \\ \text{L. "3" at } \frac{1}{2} \text{ m.} \end{array} \right.$

Massage was used every day at short intervals, dating from October 20, 1898 to February 11, 1899. Examinations were conducted on November 23, 1898, January 1, 1899, and February 11, 1899, the results being apparent in columns 2, 3 and 4 of Case III. The improvement in auditory acuity in the case was, we are compelled to admit, very slight. The left side showed the duration of hearing for c to  $c^4$  diminished a little. There was increased range downwards, for the right; for the left from A of the contra to G of the subcontra octave. The noises were much diminished. Likely this caused the patient to declare her hearing much improved, though but slight alterations were observed objectively.

*Case IV. Sclerosis*—Hearing-power before massage:

*Range* { R. from G of the contra octave to 3.6 Galton.  
 { L. from A of the contra octave to 2.2 Galton.

*Duration of Hearing* for octaves C to  $c^4$ , in comparison to the normal, the latter computed at 100 (see column 1, Case IV, in the table).

*Weber*, uncertain.

*Rinnie* { R.  $c^4$ , 23 sec.  
 { L. c, 12 sec.

*Schwabach* + 5 sec.

No accentuation of tone conduction where meatus were closed. Only when they were spoken close to the ear could medium loud numbers be heard. Patient had massage daily at short intervals for a month. A 2 millimetre stroke of great rapidity was employed, the sittings lasting 15 minutes. In addition on certain days slow massage was employed, a 4 millimetre stroke being applied for 4 minutes.

The results are subjoined:

*Range*—Right, no change; Left from A to F of the contra octave, and above from 2.2 to 1.8 Galton. Faulty observation may explain this extension of the upper limit.

*Duration*; for all the test tones, as exhibited in the tables, had increased considerably. The hyperemia of the mucous membrane of the inner tympanic wall disappeared, which is an important point. At the end of four weeks' treatment the patient could be conversed with by speaking close to her left ear with raised voice.

These few cases are not supposed to furnish a complete picture of vibratory massage, but rather as the beginning of scientific study of the subject and this method of treatment. In any further investigations a few facts will be of assistance.

*Conclusions—Vibratory Massage is Contraindicated:*

1. In all the acute inflammatory conditions of the sound-conducting apparatus.
2. In all diseases of the sound-perceiving apparatus with normal sound conduction. However, if rigidity of the ossicles exist it would be well to try the massage.
3. It would seem, from its mode of operation, that vibratory massage is of little benefit in middle-ear disease attended with retraction of the ossicles, simple chronic middle-ear catarrh, or when there is extensive atrophy of the membrane, or adhesions of the same. Further experiments are necessary to determine its place in these cases. Two weeks of treatment in all cases is necessary to form a fair estimate of possible benefits.



## A CASE OF MASTOIDITIS—CEREBRAL TUBERCLE—DEATH AUTOPSY.\*

BY BURNETT C. COLLINS, M.D., BROOKLYN.

Otologist and Laryngologist to the Bushwick and East Brooklyn Dispensary; Assistant Surgeon Brooklyn Eye and Ear Hospital; Associate Ophthalmologist  
Bushwick Hospital.

Patient, a female child, fourteen months old, was brought to the Brooklyn Eye and Ear Hospital, August, 1899. Examination then showed a large abscess over the mastoid on the right side and the ear suppurating profusely from a small posterior and inferior perforation; the drum, especially the posterior and superior quadrant, distinctly bulged. The parents stated that the ear had been discharging about two weeks and the child cried continually and was apparently suffering severe pain. The swelling behind the ear had been noticed by them for about three days. Child very plump and healthy looking. Abortive treatment being out of the question, I operated about one hour after entrance to the hospital. Temperature, 101°.

Incision through the soft parts liberated a large amount of pus and showed great destruction of bone. All necrotic material was removed, the sinus opening into the antrum was enlarged and the apex was removed and showed that the apex cells were unusually well developed for one so young, so much so that I remember calling the attention of the doctor who assisted me to this fact. Otherwise there was nothing to note. No reason to suspect a tubercular process. It has been my experience that a tubercular process in this locality is accompanied by little or no pain. The wound was flushed with a carbolic solution, followed by alcohol, dried and packed with iodoform gauze. There being no indication, the wound was not dressed until the fifth day. It then looked unusually clean and healthy. It was dressed twice a week by the house surgeon and he reported to me that the case was doing unusually well and all thoughts of it had passed out of my mind.

Eight weeks after the operation, I was called to see a child, word being left that it was a case on which I had previously operated.

The parents stated that the child had been sick for two weeks. Their family doctor had been in attendance and said the child had bronchitis for which he prescribed. There being no improvement he advised them to send for me to examine the old wound of operation.

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\*Read before the Clinical Society of the Bushwick and East Brooklyn Dispensary.

The child was in bed, no desire to change position, would lie in any position it was placed and cried if disturbed. Convergent strabismus of both eyes, especially marked in the left, and ptosis of left. Pupils widely dilated, not responsive to light, apparently a slight facial paralysis on the left side. Temperature rectal 99, pulse 52 and weak. Child was nourished at the breast. Took nourishment regularly, no vomiting. The wound, which had been neglected for the last two weeks, was nearly closed, and was discharging small amount of pus. The drum-head healed and had regained its normal color. Child had a slight cough. Examination of chest negative.

I immediately suspected inter-cranial extension of the mastoid abscess, advised removal to the hospital, which was done the same day. The next day the child appeared much the same, although the paralysis on the whole left side was more marked and it was apparently blind. Examination of the eye ground showed no change from normal. Consultation with the surgeons of the hospital, a localized pus collection suspected in the temporal region. It was almost certain the child would die if nothing was done so I decided to operate.

I reopened the old wound, careful searching with a probe revealed no sinus other than the one previously made into the mastoid antrum. With the rongeur, I cut away the bone so as to expose the dura over the temporo-sphenoidal lobe. No extra dural collection was found, a dural flap was raised and a probe passed in every direction between the dura and the surface of the brain. An aspirating needle was then inserted into the brain substance in every direction, but found nothing. A button of bone was next removed for exploration of the cerebellum with a negative result. The wound was partially closed and packed with iodoform gauze. The child recovered from the anesthetic, had a convulsion the same night. The next day it was about the same as before the operation. The second day it began to grow weaker, refused nourishment and died on the third day. Temperature taken three times daily in the rectum ranged between 99° and 100°.

Autopsy by Dr. Shattuck showed brain substance everywhere softened, large increase in the cerebral fluid. Tubercle involving brain substance in the temporo-sphenoidal lobe. Meshes of the pia-mater everywhere studded with tubercle. Tubercle in the lungs, liver and spleen. Mesenteric glands enlarged. The sinuses of the meninges normal, but possibly a beginning meningitis at the base. The needle punctures were not visible. Remarks:



The only interesting point for the otologist would be. Was the mastoiditis tubercular? The autopsy showed no connection between the original trouble and the tuberculosis. I regret that in this case no examination, microscopically, of the contents of the mastoid was made. I do not feel at fault for having operated on the case. The fact that the child showed cerebral symptoms, together with the knowledge that a mastoid abscess had been neglected gave enough suspicion to account for the cerebral symptoms as an extension from the mastoid.

I might call attention to the extreme slowness of the pulse when first seen. The same condition noted in three cases of cerebral abscess recently reported.

1263 Dean Street, Brooklyn.

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## CORRESPONDENCE.

*Editor THE LARYNGOSCOPE:—*

In my article on "Parasitic Affections of the Pharynx," published in the September number of *THE LARYNGOSCOPE*, I failed to add to my list of references a paper on the subject, by Dr. M. Toeplitz, of New York, published in the *New York Medical Journal*, June 28, 1898, although I alluded to the article in the paper. If you will be so kind as to insert the corrected statement of the fact I shall be greatly obliged to you.

E. O. Sisson.

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## ANNOUNCEMENT.

As the date for holding the International Medical Congress falls in 1903, it has been decided that the next International Otological Congress shall not take place in that year, but in 1902. The meeting will be held at Bordeaux under the Presidency of Dr. Moure.

## SOCIETY PROCEEDINGS.

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### NEW YORK ACADEMY OF MEDICINE.

#### SECTION ON LARYNGOLOGY AND RHINOLOGY.

Stated Meeting, November 22, 1899.

Robert C. Myles, M.D., Chairman.

#### **Bony Cyst and Polyp.**

Dr. J. E. Newcomb presented a bony cyst of the middle turbinate and a polyp from the same case. The patient was a stout German from whose nostril ordinary polyps had been removed three years ago. He had thence been well until February last when he presented himself with obstruction in the right naris, due apparently to another soft polyp. Removal with the cold snare gave the sensation as of going through a bony shell and the mass proved to be a genuine bony cyst. In the other mass removed there were bony spicules, but no true cyst formation. Following the removal of the latter there had been a sharp secondary bleeding requiring temporary post-nasal tamponment.

Regarding the causation of these bony cysts, the speaker said that the theory most commonly accepted was the one championed by Macdonald, that these spicules were the result of an osteophytic periostitis, as a result of which the bone incurved in both the antero-posterior and horizontal directions. This resulted in the formation of a cavity lined with the same kind of mucosa as covered the bone.

Dr. Thomas J. Harris said that about one year ago he had operated upon a case presenting a very similar condition. At first he had supposed he was dealing with disease of the ethmoid cells. On examination of the left side of the nose a very large mass of uncertain nature had presented itself, which had looked somewhat like a malignant growth. On using the cold wire snare he had found that he was dealing with an enormous bony cyst. He had removed this cyst, which was about three-fourths of an inch long. Since this had been removed he had been able to determine definitely that the patient was suffering from latent empyema of the frontal sinus. The case had been operated upon later by the external method, and the patient had ultimately made a good recovery.

Dr. Wright kindly examined a portion of the cyst wall and reports as follows: "The specimen presents a very fine example of the structure of such growths so far at least as the coverings of the bone are concerned. The bone itself does not present the evidences of rarefying osteitis which I have seen in other specimens. The contrast between the internal and external coverings is very marked.

"The internal presents no glands at all. It has, however, between the epithelium and the underlying bone, a zone of muscular arterioles, some cut longitudinally in the specimen and some transversely; also some veins, and in one place there seems to be some microscopic erectile tissue. The epithelium is of one or two layers and beautifully ciliated—a condition not often seen in specimens as usually submitted for examination.

"The external surface, however, presents all the usual evidences of inflammation, viz., edema, increase of stroma, round cell infiltration, a number of racemose glands with the epithelium slightly changed, no blood vessels, at least no arterioles as observed in the inner covering.

"The polyp which accompanies the specimen presents the usual characteristics of edema, but has rather more glands than usual.

"Hence we have here clear evidence of an inflammation of the mucosa confined to the outer layer of the membrane covering a bony cyst, while the bone itself and its internal covering are practically normal. Common sense urges that this is the usual course of events and that in these cases the lesion begins in the mucosa and subsequently extends to the bone contrary to the dictum of Woakes."

#### **A Case of Healed Laryngeal Tuberculosis.**

Dr. T. Passmore Berens reported this case, that of Mr. G., thirty-two years of age, who had consulted him May 14, 1896, for a progressive hoarseness, first noticed two or three months previously. His family history was good, but he had been treated for more than a year for a "fibroid bronchitis." Examination had revealed a very pale larynx, while above the left cord, and apparently lying on it, was a large edematous swelling springing from the ventricle. It gave the appearance of what had been formerly called "everted ventricle." On the upper surface of this swelling was an ulcer. Both cords were red, thickened and edges ulcerated. Both arytenoids were swollen. There were many enlarged veins at the base of the tongue and the lingual tonsil was enlarged with a cheesy mass in the center, evidently smegma. There had been dullness on percussion over the apices of the lungs, and exaggerated bronchial



respiration and many small bronchial and subcrepitant râles. Numerous tubercle bacilli were found in the sputum, and mycelial threads in the smegma. The internal treatment had consisted in the use of tonics and large quantities of milk. The growth in the larynx was injected with creosote, according to the Chappell method, and daily injections of iodoform and ether (one drachm to one ounce) were made into the larynx. The ulcerations had healed rapidly, and the growth, after the fourth injection of creosote, or in four weeks, had so markedly decreased that the injections were discontinued. In July the larynx was healed as regards the growth and ulcerations, but the redness and thickening of the cords had persisted. The patient was taught to use the iodoform and ether at home. In September his larynx had been well. He coughed less and expectorated less, though the tubercle bacilli persisted. In the spring of 1897 he had developed a small ulcer in the inter-arytenoid space. This had been treated with mono-ortho-chlorphenol, applied with a cotton applicator, and the iodoform and ether had been resumed. This attack had lasted six weeks. This man had had no further trouble in the larynx, but the bacilli had remained until last spring. He now was free from both expectoration and cough. His lungs were apparently healed, although dullness still persisted at both apices. During these years he had not left the city for any extended trip, nor had he lost a day's work, which was that of a dentist. The mycosis of the lingual tonsil had persisted. The smegma no longer contained tubercle bacilli. The patient was then presented for inspection.

Dr. W. Kelly Simpson said that the result was remarkable, and there did not seem to be any doubt about the diagnosis. To the fact of the pulmonary tuberculosis being in the early stages and to the persistency of the treatment was this remarkable result to be chiefly attributed. In other cases of the kind that he had seen there had always been some laryngeal changes left behind by which the former condition could be recognized.

Dr. Francis J. Quinlan said that he had hoped to have here this evening a patient seen about five years ago with a well-marked ulceration of the arytenoids, yet this ulceration had healed during a prolonged stay in the Adirondacks, and there was no evidence of tuberculosis in the chest, and the patient is at present enjoying excellent health with an excellent voice, not only for speaking, but has a good singing quality as well.

Dr. W. Freudenthal referred to a patient under his care who had had a very large ulceration of the epiglottis. The interior of the larynx was not involved. Although this man lived amid bad surroundings, was poorly nourished and was a hard working tailor, the

local leison had absolutely healed. Notwithstanding this favorable result in the larynx the disease had progressed in the chest.

Dr. W. K. Simpson remarked that the case last reported was more localized, and was, therefore, quite different from a lesion on the interior of the larynx.

Dr. Myles said that about four years ago a man had come to him from Connecticut after having been in the hands of several physicians without a diagnosis having been made. There was some infiltration of the ventricular bands, and the sputum contained numerous tubercle bacilli. He had been advised to go to New Mexico, but had remained in New York city under another physician, and was to-day perfectly well. Two cases of primary tuberculosis of the epiglottis had come under his care which had had some involvement of the lungs. In one he had removed the epiglottis, and had advised the patient to go to New Mexico. These patients had been under the care of skilled physicians, and they had failed to make the diagnosis in one case because the microscopical examinations of the sputa had not shown the presence of tubercle bacilli. Yet microscopical examinations of sections of the epiglottis showed them in abundance. He would emphasize the necessity for the prompt and complete removal of the epiglottis after having made an early diagnosis of tuberculosis of this part.

Dr. Wright showed a nasal trephine which he had used with an electric motor attached to the street current, such as is used to reduce the current for cautery purposes. While attached, and just after being used in a patient's nose, the instrument came in contact with a water pipe. Short circuiting had taken place, and a hole had been made by the current through the steel barrel. It was evident from this that if the patient, while the instrument was in the nose, had touched a ground connection, as she might easily have done by a sudden movement, the full force of the street current would have passed through her nasal tissues with possibly very serious, at least very disagreeable, results. It, therefore, seemed of importance that this matter should be brought to the attention of the section, that those operating in this manner might guard against the possibility of such an accident by having the flexible shaft connecting the trephine with the motor insulated from it. This had been done by the instrument maker at Dr. Wright's suggestion.

#### **Case of Lesion on Anterior Surface of Gum.**

Dr. Myles presented the patient, a man born 1841.

In the early spring of 1896, J. H. S. presented himself to a dentist, the best in his place of residence, for a diagnosis and treatment of lesion on the anterior surface of gum situated directly about the



exit of the two last molar teeth of the right upper maxilla. The dentist was informed of the fact that the trouble had been in existence some two months or more. After an examination of the part, teeth, etc., the dentist expressed the opinion that the cause of the trouble was neuritis, which probably the removal of the teeth would overcome or relieve—this was done, but relief from the trouble not following, the dentist suggested that probably a spicula of bone consequent upon fracture of the alveolar process was imbedded in the tissue, and attempted its removal; not finding the spicula, he, however, having opened the cavity of the process in its attempted removal, he pared off the sharp edges of the process with bone forceps which he thought might be a source of irritation and inflammation. In about a month's time the dentist was abandoned by J. H. S., the condition of his mouth not having improved, and presented himself to a specialist on eye, ear, nose and throat diseases. This gentleman, whom we shall call Dr. A. was of the opinion from the beginning of his observation up to the time of his death, which occurred in February, 1899: That the disease was benign in character, and that it had its origin in a known uric acid diathesis. His treatment was both local and constitutional—locally he applied within a period of twelve months solutions of nitrate of silver, varying in strength from 10 to 60 grains to the ounce. No apparent benefit was derived from this treatment, the disease very slowly and gradually took in the least bit of additional territory. Now having encroached on buccal mucous membrane. In May of 1897, J. H. S. consulted an eminent surgeon in Philadelphia, regarding the nature of the ailment, and as to its relief. The surgeon, who will be known as Dr. B., expressed the opinion that the lesion had the appearance of being benign in character, but what to name it, he was at a loss. He said, however, that inasmuch as it had not yet yielded to local and constitutional treatment he would advise excision. This was done the following day, and Dr. B. was requested to preserve the excised piece and have the pathologist of the University of Pennsylvania report on same, which was promised. But the report was never made, owing, it was said, to the neglect of Dr. B.'s assistants to properly attend to the matter as they were expected to do.

The excision accomplished nothing in so far as related apparently toward the progress of the disease. From June, 1897, to June, 1898, it was thought by several of the profession in the place of residence of J. H. S., to be purely of a benign nature, notwithstanding there had been no improvement in the neoplasm, but rather an extension over the gum and mucous membrane of the hard palate. The treatment during this year embraced a repetition of past treatment—

constitutional treatment comprised an anti-uric acid as well as an anti-syphilitic one, owing to a presumptive history of syphilis forty years prior to the local manifestation in his mouth. This treatment consisted of mercury and iodide of potassium combined, for two or more months, followed by iodide of potassium in doses reaching 75 grains three times a day and lithium citrate in 10 grain doses three times a day. There was no apparent benefit to be noticed from this treatment. In June, 1897, whilst on a visit to Denver, during the annual meeting of the American Medical Associations, J. H. S. was presented to several of the most distinguished of the profession. Dr. C., of Cincinnati, thought the disease bore some resemblance to *oidium albicans*; Dr. D., of Philadelphia, said he had never seen anything like it, and asked others present what it was. Dr. E., of California, specialist on skin diseases, thought it *ichthyosis*; Dr. F., of Denver, specialist on skin diseases, did not know what it was. Dr. G., of Philadelphia, specialist on skin diseases, pronounced it a case of *leuko plakia buccalis*. He suggested a line of treatment without inquiring as to the history of the case, or the physical condition of the individual—past or present. Reaching a conclusion from a standpoint, based upon the *leuko plakia* present upon the anterior buccal mucous membrane of the lower lip at its junction with that of the gum. In the autumn of 1898, the disease not having improved Dr. A. thought it was probable that a removal of the lesion might be accomplished through the aid of the galvano-cautery. This was practiced, but without any apparent benefit. In May, 1899, J. H. S. visited New York, and requested a diagnosis from the following gentlemen: Dr. H., surgeon; after careful examination thought the disease of neurotic origin. Dr. I., specialist on skin, thought the disease *lupus-erythematosus*. Dr. J., specialist on skin, did not know what it was unless it was founded on the *leuko plakia*. Dr. K., specialist on the skin, thought it Riggs' disease. Dr. L., specialist on skin, did not know what it was, thought it looked like *lupus-erythematosus*. Dr. M., specialist on skin disease, did not know what it was, but thought it due to digestive disturbance. Dr. N., specialist on skin, thought it *epithelioma*, based upon microscopical examination of pathological specimens.

J. H. S. on his return home in May, visited Cincinnati, and whilst there, called on Dr. O., specialist on skin diseases, who expressed the opinion that the disease was *lupus vulgaris*.

November, 1899, J. H. S. again visited New York, with the object of obtaining, if practicable, a satisfactory diagnosis. He has called upon most of the gentlemen seen on the previous occasion of his visit, and in addition many others. Apparently, he is not much

nearer a diagnosis than when he was last here. Dr. H. holds to his original opinion. Dr. I. holds to his original opinion. Dr. K. holds to his original opinion of Riggs disease. Dr. L. was not seen again. Dr. M. held to his original opinion. Dr. N. has taken another pathological specimen for microscopical examination, and thinks as the result of his investigation thus far the trouble is lichen planus.

This list of skin specialists comprise those seen in May, 1899, and in addition, the following opinions have been expressed by other skin specialists of this city on the occasion of this visit.

Dr. O. thought the disease more nearly like lupus erythematosus than anything else.

Dr. P. said it bore no resemblance to lupus erythematosus or to epithelioma. He did not know what it was, but thought that it might be an osteo-sarcoma.

Dr. Q. said it has neither syphilis nor lupus erythematosus and he would not say what it was short of a pathological examination with microscope. This specimen he removed, but has not reported there-upon.

Dr. R. thought syphilis might explain the whole phenomena, but after examination and re-examination, and some reasoning, wound up by saying he did not know what it was.

Dr. S., specialist on nose and throat, after a patient and pains-taking examination pronounced the disease of neurotic origin.

Dr. T., a neurologist, declared the disease not of neurotic origin.

Dr. Beaman Douglas said that examination had led him to think that the diagnosis rested between a neurotic disease and a lupus, and he could not make the diagnosis more closely without microscopical examination. He would not be surprised if there were some tubercles on the border of the lesion. He felt positive that the growth was benign—either neurotic or a very chronic lupus.

The patient then presented a report, just received from the pathologist. The latter stated that he was unable to classify the lesion under any of the recognized heads. The specimen resembled more a typical fungous epithelioma than anything else. He had not been able to find any evidence, however, of epithelioma. Lichen planus or lupus erythematosus might be suggested, but the objection to both was that the appearance of the mucous membrane was not typical, and the skin was free. At present there was no evidence of malignancy, and the pathologist felt sure that neither the nerve lesion nor a syphilitic virus was a factor in the case. The speaker said that the specimens removed last May had borne a close resemblance to epithelioma.

Dr. W. K. Simpson said that he had seen a very similar case, ex-



cept that the lesions had not been quite so white. The lesion had been on the outside of the gum and on the cheek, and had eventually appeared on the hard palate. It had started as a so-called epulis. After a period of three or four years the glands under the jaw had enlarged, and on being excised they had shown epitheliomatous tissue, the patient subsequently dying from epithelioma.

Dr. C. G. Coakley said that it would be interesting to know whether the disease involved the antrum. The pathological examination was often disappointing when only small areas of tissue were submitted to the pathologist for examination.

Dr. Myles said that he had seen one case presenting a somewhat similar appearance, which had proved to be due to trophic changes in the nerves. Ultimately the patient had recovered. A woman from Texas had presented a similar lesion to the white false membrane, only it had been bilateral and had existed, from time to time, usually with two weeks' intervals, for two years. No diagnosis had been made in that case, although she had been seen during the past summer by a number of physicians at the various clinics.

#### **A Study of the Application of the Galvano-Cautery in the Nose.**

Dr. Beaman Douglass read this paper. He said that while at one time the electro-cautery had been very popular it had gradually fallen into disfavor, and was now but little used by specialists. To ascertain the comparative merits of the cautery method and the knife incision, a series of specimens had been obtained and examined microscopically. The effect of the cautery knife was to form a cone of burned tissue, and the effect of the cautery was greatest at the periphery of cone. The subepithelial hyaline membrane seemed to be especially and extensively affected by the cauterization. In some of the specimens the tissue in the surrounding area, away from the cauterized part, had been affected by the heat. These appearances were in marked contrast with those presented by the knife incision. No brown or amorphous matter was found in the incision specimens. There was no sloughing tissue. The cut was clean and sharp, and there was no evidence of the surrounding tissue having been affected. Specimens taken one hundred hours after operation and cauterization were next examined. The blood vessels in the neighborhood of the burn contained more blood than those at a distance from the cauterized area, and there appeared to be a few *thrombosed vessels*. This was a very important fact, since it shows a serious result in a tissue removed from one cautery point and from our observation. Repair had apparently begun, and the absence of leucocytic infiltration proved that there was no inflammation present. In another specimen, taken 360 hours after the cauterization, the new tissue was



already filling up the gap. After complete healing only connective tissue could be found. No contraction was visible. The cautery should never be used superficially or over a large area, but should be rapidly introduced into the deeper structures, and never drawn forward or backward. At the moment of contact with the membrane the cautery point should be scarcely heated at all. The ideal theoretical cautery point would be a stiff wire loop used as a knife, the old familiar cautery knife being discarded. The old method of linear cauterization should be abandoned, because this destroys, first, the epithelial layer and then the deeper structures down to the bone. The object of the cautery was to reduce the hypertrophy and disturb the surface as little as possible. The cautery point should be repeatedly introduced at intervals of about one-quarter of an inch. On the septum a single puncture should be made—in fact, the cautery should only be used in dilatation of the venous sinuses. In hypertrophy of the inferior turbinate several punctures should be made in a circular direction. The middle turbinate should rarely be cauterized at its posterior end. He believed that mistakes in diagnosis, together with the excessive use of such a powerful instrument, were chiefly responsible for the disfavor into which the electro-cautery had fallen. From the microscopical appearances already mentioned, it would seem that the redness and swelling so commonly observed after cauterization were not really due to inflammation, but simply to congestion and edema. The ordinary electrode evidently produced a thick slough in which the central tissues were not entirely destroyed; hence the use of such an instrument might very easily lead to sepsis. The upper nasal region, the nasal roof, the ethmoid region, the outer nasal wall and the middle turbinated body, except its anterior and posterior ends, should never be approached with the cautery, because of the difficulty of limiting and controlling its effects within safe and proper limits. Owing to the peculiar edema following cauterization this method should not be used about the uvula, faucial pillars, in the arytenoid region or on the glosso-epiglottal fold, as here marked edema would be harmful. The cautery was a powerful agent for good in selected cases, but should only be applied by experienced hands. The first general indication for its use was that it should be applied to soft structures. It would accomplish the best results on tissues having chiefly round cells. It was best used on tissues the seats of chronic congestion rather than on those that had gone on to marked hypertrophy or a polyp formation. In polyp formation all methods which do not destroy the periosteum were futile to prevent the return of the polyps, and it had been seen that

the cautery was not applicable to the regions where polyps chiefly develop. In malignant growths the cautery should never be used.

Dr. O. B. Douglass said that a dozen years ago he presented to this Section his method of using the dynamo current in place of the battery for all nasal and other electrical work. It was the first successful use of that current, and the apparatus is still in working order in his office. But he believes there are better methods for operating in nearly every case, and he had seen worse effects from the cautery than from any other method of nasal treatment. He could not approve of its general use, though it might be serviceable at times in the hands of experts. He considered the cautery even more dangerous than the method of injecting acids into the tissues. He deplored the fact that the galvano-cautery has come to be considered an essential part of the equipment of every tyro in nose and throat work. The country practitioner, if he makes any pretense to this department of surgery, has his cautery ready for action and begins firing whenever he imagines that an enemy—"the catarrhal microbe"—may be lurking in the dark and unexplored recesses of a nasal cavity. This practice—the universal use of the cautery in the nose—should be condemned by this Section of the Academy, and by all who know its possibilities for evil.

The paper of Dr. Douglass presents some new points, but on the whole emphasizes the need of caution by unskilled surgeons and in using red-hot platinum so near the brain—in the clearing house of every organ of special sense.

Dr. Berens agreed with the last speaker regarding the abuse of the cautery. He objected to its application to the base of the tongue, as he had known it to result in painful cicatrices, or in small and very annoying mucous cysts. At the base of the tongue its use should be limited to the destruction of "throat piles." For the faucial tonsil, where hemorrhage was not feared, the knife was to be preferred. In a few nasal conditions the cautery was useful, but the knife would be found equally good except where there was an excessively vascular growth. The reader of the paper had not stated what degree of heat had been used in the case from which his specimens had been taken.

Dr. T. J. Harris said that many of those present had been employing deep cauterization, destroying as little as possible of the surface membrane. He could not agree with Dr. O. B. Douglass or Dr. Berens, for he had found the galvano-cautery exceedingly useful in his practice. That the cautery had been abused could not be doubted, but that should not be a good reason for specialists discarding it. Within the last few years he had not been able to find re-

ports of serious results following the employment of the galvano-cautery.

Dr. Quinlan said that he believed he had been the first in this city to report a fatal case of electro-cauterization of the middle turbinate bodies. The cauterization has been done very lightly, yet the patient so succumbed in seventy-two hours of basilar meningitis. Lennox Browne and Ziem had reported other casualties following its use. He thought that rhinologists should collectively decry the *common use* of the galvano-cautery in the cavity of the nose. The reaction above the floor of the nose was very severe, and might very easily extend into the cranial fossa. One of the worst hemorrhages that he had been called upon to treat had followed the use of the galvano-cautery. If the cautery were applied to the masses at the base of the tongue adhesive bands were apt to form and sometimes we leave the patient worse than before.

Dr. Simpson asked the last speaker if the same dangers did not attend the use of other caustic applications, such as acids.

Dr. Quinlan replied in the negative.

Dr. Holbrook Curtis said that he had already spoken very forcibly against the use of the galvano-cautery on the cartilaginous septum. He might employ it on an inferior turbinate hypertrophy, but nowhere else. For about fifteen years he had been using acids to the exclusion of the cautery, and had never had any bad results follow the use of the monochlor-acetic acid.

Dr. Freudenthal said that it could not be denied that disastrous results would follow the use of the cautery, even though the operation had been done with modern surgical precautions. He now used the cautery very rarely, and wished others would follow his example in this respect.

Dr. Myles said that he did not think any cautious person would use the cautery without great caution on the middle turbinate, but it was certainly very useful on the inferior turbinal. Much depended upon the size and thickness of the electrode and the manner of using it. He had been using the suprarenal extract combined with cocaine, and a very small electrode. The contraction produced by the suprarenal extract allowed of using a higher degree of heat without the annoyance from hemorrhage. This, of course, gave a cleaner and sharper slough of the tissue. There should be very little reaction under these circumstances unless the bones were near each other or the periosteum was injured. He now never uses the electro-cautery knife to burn away the posterior tip of the inferior turbinal, but preferred the electric loop or cold snare.



## SIXTH INTERNATIONAL OTOLOGICAL CONGRESS.

*(Continued from Page 365.)*

### **Pneumo-Massage Under High Pressure—P. J. MINK (Zwolle).**

The chain of ossicles must be considered as a lever with the membrana tympani and the membrane of the oval window (?) at its distal end. It is by this intermediary that the atmospheric air is placed in communication with the labyrinthine fluid.

The mobility of this intermediary, acting as a unit, exercises a predominant influence on the hearing. When the ossicular chain is stretched by the tension of the membrana tympani a considerable elasticity of this portion of the conducting apparatus is already produced.

From a physical standpoint the mobility of this mechanism possesses a value called the "Co-efficient of elasticity."

The decrease of mobility corresponds to an increase of this elasticity. The task imposed upon the aurist, where the transmitting apparatus is impaired, is to increase the mobility of the parts and thus decrease the "Co-efficient of elasticity."

To do this the general plan of massage has been that of an alternate rarefaction and compression, applied to the membrana tympani. This principle is a thoroughly rational one if we keep in mind that the massage movements must "exceed the limit of elasticity." It should be understood that this property of elasticity possessed by the drum membrane and ossicles must be overcome in order to obtain the greatest possible benefits from pneumo-massage.

Pneumo-massage as usually applied does not take this point into consideration, and from a mechanical standpoint, therefore, has heretofore not been applied to its fullest possible extent. The favorable results following massage are due mainly to its influence on the impaired mechanism and the rigidity of the ossicles.

A force is necessary to first draw the chain of ossicles tense in order that the entire transmission apparatus may be brought within the influence of the massage. It is our purpose, therefore, to draw the drum membrane and ossicles to a constant tension by pneumatic pressure to the "limit of elasticity" and thus apply an alternate compression and rarefaction constituting the massage of these parts.

To determine the value of this technique, I have observed the results in a series of cases where the pneumatic pressure has been



raised in a slow and gradual manner as here described, with the following results:

1. Only a low pressure is tolerated by the normal ear without painful sensation.

2. Where the sound conducting apparatus is impaired, higher air pressure is comfortably borne.

3. The only exceptions to these rules are the various forms of acute inflammation, exceptional cases of attic suppuration, and atrophy of the mallus.

4. In cases of middle-ear sclerosis constant and increased pressure is always tolerated to a greater degree than in the normal ear.

5. The close relation existing between the degree of sclerosis and the amount of pressure tolerated may frequently help to verify the diagnosis.

As the result of these observations it may be admitted that the painful sensations of this massage procedure may determine the "limit of elasticity" of the sound-conducting apparatus.

The treatment which I have instituted is a simple and direct application of these principles.

A reservoir of air communicating with the ear by means of a rubber tube tightly fitted into the auditory canal, is compressed in a slow and gradual manner by the action of a screw. To one side of this apparatus a manometer is attached; the other side is supplied by a small pear-shaped rubber bulb.

The screw is turned, admitting an air current into the ear until a painful sensation in the interior of the ear is produced.

Close attention must be paid to the application and the amount of pressure applied by this apparatus. Too strong pressure of the rubber bulb will be harmful, while on the other hand, if the pressure is too light it will not be effective. By paying strict attention to the sensations experienced by the patient many harmful results may be avoided. A pronounced hyperemia of the membrana tympani is also observed, but this, however, is of little consequence. The time of application and the frequency of alternating compression and rarefaction of this apparatus depends upon the character of the case.

The results which I have always obtained from this method have been very encouraging, and the subjective noises in the ear and also the hearing of the patient have been materially improved.

These results surpass by far those which I have been able to obtain by any other methods.

In the application of this technique I would advise the greatest delicacy and care.

**Accoustic Exercises for Deaf Mutes—A. COSTINIU (Bucharest).**

For these exercises the voice is used and also a variety of instruments (trumpet, drum, etc.) The limit of the hearing distance for these is from 20 to 30 meters. The method employed is similar to that described by Urbantschitsch. The speaking voice is used in varying intensities. Hearing tubes are seldom employed as they are found to change the quality and character of the transmitted voice.

These exercises are undertaken by different members of the family to obtain the advantage of a variation in the voice for the patient.

In beginning these exercises the patients are drilled on one or two vowels per sitting; these sittings are repeated two or three times a day each of fifteen minutes duration. When the patient gives evidence of hearing the vowel clearly and can repeat it distinctly, other vowel sounds are added; then follow consonants, monosyllables and finally words and phrases. During these exercises the instructor sits at the side of the patient so as to accustom his hearing without looking at the speaker. When the patient has become familiar with lip-reading, the exercises are conducted so that the lips and mouth of the instructor cannot be seen.

When the patient is familiar with several vowels sounds before these exercises are undertaken a confusion in the interpretation of these sounds frequently occur. To overcome this the individual vowel sounds which are badly heard are persistently repeated until the hearing becomes more distinct.

It occasionally happens that a patient who has progressed even to the point of hearing words and sentences may suddenly in the course of twenty-four hours have a sudden relapse. Under these conditions it is necessary to begin again with the individual vowel sounds and progress as before.

Women take more interest in these exercises than men.

Certain nervous phenomena are occasionally observed and these gradually disappear as the exercises are continued. All of my patients are cases of acquired deafness and careful testing indicates some degree of hearing for the spoken voice. Where these traces of hearing do not exist the results of this accoustic training are much less satisfactory than in patients who still possess some remnant of voice hearing.

Together with these exercises catheterization of the Eustachian tube and Pulitization is also undertaken.

In three of these patients I have operated for adenoid vegetation.

As the result of my work I can report ten patients who hear the spoken voice at more than one meter and the instruments at more than forty-five meters and who are able to hear and repeat entire phrases. Great observation is necessary both on the part of the instructor and of the patient and at a period of time varying from ten months to two years and even more, before satisfactory results can be obtained. Even then it remains to be seen whether these results are permanent.

### **Intra-Tympanic Injections of Pilocarpine in the Treatment of the Middle-Ear Sclerosis—FISCHERICH (Weisbaden.)**

The author reports satisfactory results following the injection of pilocarpine into the tympanic cavity in 120 selected cases of well-marked middle-ear sclerosis treated during the past four years.

The method, in brief, is the following: A 2 per cent aqueous solution of pilocarpine hydrochlorate is injected into the tympanic cavity by means of a flexible tympanic catheter passed through a metallic Eustachian catheter well up into the tube. He begins with 6 to 8 drops, gradually increasing to 10, 12, 14, 16 drops; the increase in quantity of the injecting fluid depends on: (1) The stage of sclerosis; (2) the absorption capacity of the tympanic mucous membrane; (3) the reaction, as evidenced by each individual patient.

Thirty to forty daily injections constitutes this course of treatment. In long-standing, chronic cases forty to fifty injections may be made.

The results in many cases have been surprisingly good, even after all other therapeutic measures have failed. The average improvement noted was a 2 to 10 fold increase of the hearing capacity prior to instituting this treatment.

The author observes the following data in the application of this method:

1. Hearing tests should not be made immediately following the course of injections, but after an interim of eight days, when all fluid and moisture in the tympanic cavity has been absorbed.
2. A further improvement in hearing is frequently demonstrable some time after the injections have been discontinued.
3. The improvement following a first course of injections is not always of a definite character, as a later course of such treatment frequently results in further improvement.



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## OUR NEW YEAR'S PURPOSE.

In announcing our intention to make THE LARYNGOSCOPE hereafter more entirely a journal for specialists, we would convey no change of principles, only a nearer step to the fulfilment of an ever-cherished plan. That purpose, to so accurately and completely reflect and record the advanced scientific thought and progress of the world in our field as to be to all practitioners of oto-laryngology a bond of unity in the work and indispensable to their practice.

THE LARYNGOSCOPE we have labored to make the most finished fabric of our heart and hands. The growth of a great work sometimes typifies stages in the mental development of man. A traditional three decades is allowed to genius for trial and training before is demanded its full fruition. In its short life of less than four years, THE LARYNGOSCOPE has passed through the formative periods of childhood and adolescence, and is to-day in clear sight of its ideal.



The living up to our expansive aspirations will be to us not a matter of resolutions, but results. The realization of our plans means more space, for which we have provided. It is intended that our Bibliography shall include every article published upon otolaryngology in the journals of the world, and with this end in view there have recently been added to our collaboratorial staff several representative names.

Recognizing the importance of society reports to all active workers, especially to those located in smaller towns where clinical material is limited, we have secured competent reporters, and will publish the proceedings of all societies devoted to Otolaryngology, Rhinology and Laryngology.

Original articles will occupy a no less important and conspicuous place than heretofore, representing the best thought of acknowledged teachers and writers.

A stream does not rise higher than its source, and not inappropriate to science are the faces of scientists. A feature that cannot but add interest and value to THE LARYNGOSCOPE will be our portrait gallery of passed distinguished Otolaryngologists and Laryngologists.

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### PIONEERS IN LARYNGOLOGY AND OTOTOLOGY.

THE LARYNGOSCOPE has arranged to present its readers excellent half-tone portraits, suitable for framing, of the passed laryngologists and otologists whose fires we fan. At short intervals will appear Garcia, who "led the way;" Turck, the interesting pioneer; Mackenzie, the resourceful therapist; Meyer, friend of the children, and Moos, a savior of many sweet sounds. These are the fore-runners, others will follow.

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### SPECIAL ANNOUNCEMENT.

In the development of our plan for the appearance of an increase of matter in our columns and our reliance upon a more limited class of practitioners, it becomes necessary to raise our subscription price from \$2 to \$3 per annum. Owing to the general rise in prices in America during the last two years the cost of publishing THE LARYNGOSCOPE is already much more than it was. An increase in the size of the journal will materially add to its present expense.

In this connection we beg to remind our readers that THE LARYNGOSCOPE is still offered at a lower subscription price than any journal of its character and position in this field of medicine.

In our worthy endeavor to give to otologists and laryngologists the best for the least, we bespeak their appreciation and earnest support.

## ABSTRACTS AND BIBLIOGRAPHY.

Arranged and Edited by  
**FAYETTE C. EWING, M.D., St. Louis,**  
with the collaboration of the  
**EDITORIAL STAFF.**

It is our purpose to furnish in this Department a complete and reliable review of the world's current literature of Rhinology, Laryngology and Otology.

Authors noting an omission of their papers will confer a favor by informing the Editor

### I. NOSE.

**Trachoma of the Conjunctiva and its Relation to Diseases of the Nose**—DR. ZIEM, of Dantzig—*Annals Otol., Rhinol. and Laryn.*, February, 1899.

This article, an elaborate discussion of bad hygiene, climatic and telluric influences in producing and stimulating trachoma, is mostly of interest to the ophthalmologist. The author traces an "intimate connection between trachoma and nasal catarrh." He believes that "many patients with one-sided trachoma will be found to have a nasal catarrh on the same side, and not unusually the localisation of trachoma in either the upper or lower fornix will be found associated with either suppuration of the frontal or superior maxillary sinus so that the inflammation must have been extended by means of the vascular anastomosis of the naso-frontal or infra-orbital vessels to either the upper or lower lid." F. C. E.

**Cerebro-Spinal Rhinorrhea**—Editorial *British Med. Jour.*, September 23, 1899.

The writer of this article acquiesces in the claim of StClair Thomson, who affirms, in his recently published *Monograph*, that the cerebro-spinal fluid may escape spontaneously from the nose, most likely through the peri-neurral sheaths of the olfactory nerves. The objection to this route is that in the case described by Thomson there was no diminution in the sense of smell as might be expected from the long soaking of the nerves in the fluid. Eight cases have been unearthed from old literature that are declared to have been this affection though unrecognized by their reporters. The symptoms are long continued and constant escape of a perfectly clear fluid, free from taste, smell and sediment, with absence of mucin and albumen, and reducible by Fehlings test. Local treatment is ineffectual. F. C. E.

# **Deviation of the Nasal Septum and Its Operative Treatment—**

W. B. SHIELDS—*Med. Mirror*, Vol. x, No. 7, July, 1899.

When the septum is thin and movable, in the author's judgment, the Asche operation will be a failure, the deviation returning sooner or later on account of the pliability of the septum; of the numerous operations he thinks the Asch or Hajek's should be preferred. He has seen both Asch and Hajek operate, and prefers Hagek's, because, after the incisions are made through the septum, its lower incised edge is pushed into the floor of the nasal cavity of the greater size or concavity, the result of which is to obviate any danger of the deviation recurring in after years as it is claimed by many occurs after the Asch operation. The operation of Hajek is then described, the mode of procedure in the author's opinion being practically the same as in Gleason's operation.

[Gleason's operation has been fully described by its author in *THE LARYNGOSCOPE*, and it appears from Dr. Shields' detailed description of Hajek's method that it is not entitled to be called by the name of the latter, as it differs in no way from Gleason's except that a knife instead of a saw is used.—ED.]

EATON.

## **On the Use of Rubber Splints in the Treatment following Intra-Nasal Operations—J. P. BROWN—*Annals Otol., Rhinol. and Laryn.*, May, 1899.**

Approves the use of rubber splints (advocated by R. Lake, *Jour. Laryn., Rhinol. and Otol.*, August, 1898), after septal excision to promote smooth and equable healing. These splints are made from thick rubber sheeting, are adaptable, smooth and can be cut to any size, shape and thickness, and can be kept aseptic. Solid splints are preferable to perforated ones. The latter do not insure a respiratory passage since they fill up with secretions rapidly, and they have the further disadvantage of promoting sepsis.

F. C. E.

## **Some Points on the Diagnosis of the More Common Forms of Nasal Obstruction—C. N. COX—*Philadelphia Med. Jour.*, July 29, 1899.**

A concise discussion of the causes, and diagnosis of nasal obstruction, designed especially for the general practitioner.

F. C. E.

## **The Correction of Nasal Deformities by Subcutaneous Operations—J. O. ROE, Rochester, N. Y.—*The American Medical Quarterly*, June, 1899.**

A rather lengthly article, profusely illustrated, but lacking the purport of its title in failing to enlighten the reader upon the essential feature of the paper, namely, the technique of the operation. The author classifies deformities of the nose as follows: of the bony portion, vertically, convex and concave; laterally, spatulated and deflected; of the cartilaginous portion, tip, excessive or deficient tissue and deviation; wings, collapsed and expanded.

STEIN.



**The Forms and Treatment of Chronic Rhinitis**—R. C. KENNER  
—*Med. Mirror.*, Oct. 1899. EATON.

**Paroxysmal Sneezing and Allied Affections**—J. B. BALL—*The Lancet*, February 11, 1899.

This is a general consideration of the subject, to a great extent founded on the personal experience of 112 cases. One of these patients once counted the number of sneezes, and found that she sneezed 294 times consecutively. The number of pocket-handkerchiefs used may amount to twelve or thirteen a day. Exactly one half, *i. e.*, fifty-six, of the author's patients suffered from definite asthmatic attacks. Of the 112 patients there were fifty-nine males and fifty-three females, so that the sexes are pretty evenly divided. The majority of patients presented themselves between the ages of twenty and forty, but the disease as a rule develops in the earlier period of life, although it may begin at any age. After considering the local conditions which sometimes accompany the affection, and its general progress, he reviews the treatment by the galvano-cautery, chromic acid, or surgical measures for intra-nasal treatment. Of internal treatment he mentions quinine, belladonna, arsenic, and iodide of potassium. He frequently employs a pill containing 1 grain of sulphate of quinine,  $\frac{1}{16}$  of a grain of iodide of arsenic, and  $\frac{1}{12}$  of a grain of extract of belladonna, to be taken three times a day, the arsenic and belladonna to be increased according to tolerance. He also employs cocaine, menthol, and menthol-camphor intra-nasally. STCLAIR THOMSON.

**Review of Work in the Domain of Nose, Throat, Larynx and Ear, Taken from Recent Polish Literature**—R. SPIRA—*Wiener Klin. Rundschau*, July 16, 1899.

In this review many interesting papers and cases are recorded. A. Banrowicz (*Przegląd lekarski*, 18, 19, 20, 1898,) reports a case of rhinoscleroma which has been under observation since 1895, and which during the course of the disease presented repeated stenoses of larynx, trachea and bronchi. Curetting and dilatation resulted in a cure. Seven cases of stenosis after croup (two without tracheotomy) were caused by thickening of the tissues below the cords. Galvano-cautery and dilatation were the remedies, followed, if necessary, by laryngo-fissure and thorough removal of scar tissue.

Two cases of bronchial stenosis from pressure of mediastinal glands after pleuritis. Three cases of laryngeal stenosis as a result of syphilis. Of four cases of laryngeal carcinoma, one presented the picture of laryngeal perichondritis, another was a case of carcinoma keratoides polyposum, at first attacking only the left cord. Excision, recurrence and invasion of the surrounding tissues. One case of bleeding polyp of the septum. On the anterior upper part of the cartilaginous septum was situated an uneven, dark red, elastic tumor attached by a short narrow pedicle.



Severe epistaxis had occurred several times. Rhinitis sicca was present; and the hemorrhages had the effect of rendering the nose temporarily pervious; whereas the opposite condition was usually present. Twenty-one cases of peritonsillar abscess, of which six were in the posterior pillar. The latter extended down to the aditus ad laryngem. Treatment, warm applications and gargles—no incisions.

In one case the inflammatory exudate extended deep into the larynx, and caused immobility of the affected half, but was eventually absorbed without any sequelæ.

Sedziak (*Kronika lekarska*, 15, 16, 17, 1898,) reports a case of nasal sarcoma treated intranasally. The result was such as to warrant us in being slow to operate by opening the nose externally.

A. Goldberg (*Medycyna*, 14, 1898), a paper on the action of the larynx during whistling. His experiments resulted in establishing the fact that there is a correspondence between the scale of the voice and that of whistling. For instance, one who possesses a vocal scale from *do* to *fa* cannot whistle a note lower than *do* nor higher than *fa*. We must, therefore, conclude that in whistling a certain note the vocal cords and the larynx assume the same position that they do when the note is sung. If, therefore, the inability to whistle does not depend alone on the mouth, but also on the larynx, it cannot only be ascribed to facial paralysis but also to laryngeal disease. In the case of a hysterico-epileptic who had lost her voice and was unable to cough, the author found that the power to whistle was also lost, although the function of the facial nerve was intact. Goldberg concludes that he is able to add a third symptom to the picture of paralysis of the recurrens in addition to the two which are already well established. That is, not only is the voice and the ability to cough lost, but the patient is also unable to whistle. He would also expect to see this inability to whistle in cases of other diseases of the larynx which are accompanied by loss of voice.

Stanislaus Ciegiewicz (*Przegląd lekarski*, 1, 1898,) reports very favorable results from a 2 per cent spray of ichthyol in subacute catarrhal conditions of the laryngeal mucous membranes. He has succeeded with this where all other remedies failed. The tormenting cough stopped and the hoarseness diminished rapidly.

J. Sedziak (*Kronika lekarska*, 4 and 5, 1898,) reports on 235 cases of peritonsillar abscess. The conclusion is reached that this affection is favored by adhesions between the tonsils and the pillars on account of the retention of the tonsillar secretion. Nine cases of abscess of the lingual tonsil are included in these figures.

Jan Sedziak (*Gazeta lekarska*, 21 and 22, 1898). This paper is written to emphasize the importance of a laryngeal examination in all cases of suspected aortic aneurism. There are many cases where a paralysis of the inferior laryngeal is the only symptom of a latent aneurism. Therefore any case where hoarseness alone is the symptom should be subjected to a close examination. This will also reveal many other conditions which may help to a diagnosis; for instance, compression or displacement of the trachea,

prominence and pulsation of its walls, etc. The method of Oliver may also be used in this connection. The trachea is seized between the thumb and forefinger just below the cricoid cartilage; it is then slightly raised; in case of aortic aneurism one will feel the larynx and trachea slightly depressed at each systole.

D. Guranowski (*Przegląd Chirurgiczny*, B. ii, H. 1, 1898,) reports the case of a man with a double external auditory meatus. The patient came complaining of a sudden attack of deafness. Upon examination Guranowski found the external meatus divided into two canals by a partition composed of a thin lamella of cartilage covered with skin which extended obliquely from above posteriorly downward and forward. The anterior of these canals had a blind ending about 7-8 mm. from the opening, while the posterior canal was the true auditory meatus. This latter was occluded by a hard mass of cerumen. Upon its removal the drum-head was found to be normal and the hearing was restored. The external ear presented no anomaly.

VITUM.

## II. MOUTH AND NASO-PHARYNX.

**Papilloma of the Soft Palate**—R. MCKINNEY—*The Memphis Lancet*, October, 1899.

The growth was the size of a pea attached to the soft palate at the base of the uvula, and was removed with a pair of curved scissors and a long nasal dressing forceps. It had the peculiar raspberry-like structure characteristic of papilloma. Microscopically it showed the papillary ingrowth of the fibrous stroma.

LEDERMAN.

**The Radical Operation of Bony Obstruction of the Choanæ—**

T. S. FLATAU, Berlin—*Wiener Klin. Rundschau*, October 1, 1899.

The principal point in this operation seems to be the preliminary excision of the lower turbinal. When this is thoroughly accomplished, there is ample space to enable one to see to placing the chisel properly. It should be said that in this case (as may frequently occur) the bony plate was far too massive to admit of its removal by any other means than the chisel. After removing the bony plate, which was not accompanied by much hemorrhage, the author found that he had not cut through the mucous covering on its posterior aspect. This was done with scissors, but the hemorrhage was so profuse as to necessitate three or four days tamponing. During the act of chiseling the author kept his forefinger in the post-nasal space to protect the soft parts. He suggests that, under similar circumstances, it might, perhaps, be easier for both patient and physician, simply to fill the post-nasal space with a thick, soft tampon during the operation instead of using the finger.

VITUM.

**Late Consecutive Oro-Pharyngeal Syphilis**—LEWIS S. SOMERS—  
*Internat. Med. Mag.*, July, 1899.

The writer gives a detailed history of three cases which illustrate the varied and interchangeable manifestations of syphilis of the oro-pharynx. The special character of the symptoms appearing in the mouth and throat are pointed out. DETWILER.

**Tuberculosis and the Throat**—W. F. STRANGWAY—*The Medical Age*, September 25, 1899.

The author speaks not only of tuberculosis of the throat, but also of the throat in patients threatened with active tubercular trouble, or who have tuberculosis in other organs, but no visible infiltration or ulceration in the throat. He speaks of those cases where neither ulceration in the pharynx nor recognized infiltration is seen, but a peculiar pallor so out of harmony with other parts that no other disease can cause it. This pallor is striking in appearance, and should lead us to suspect a threatened attack of tuberculosis; likewise if we find a blotched appearance of the larynx.

With transient flushings, especially if the vocal cords do not approach each other in a normal manner, we should recognize a condition of serious omen to the patient.

These conditions may for years antecede the actual outbreaks of tuberculosis, and proper treatment may abort the threatened attack, hence these symptoms are of the utmost diagnostic value.

Active tuberculosis of the pharynx is met with very infrequently, and never without tuberculosis of other parts; indeed, it is generally a part of acute miliary tuberculosis, and is always fatal. The duration of life after this incurable malady starts is but a few months at most. Treatment is only palliative. MACLEAN.

**A Case of Complete Adhesion of the Epiglottis to the Base of the Tongue, Caused by Syphilitic Cicatrices, together with Some Observations on the Physiology of the Act of Swallowing**—  
BENJAMIN RISCHAWY—*Wiener Klin. Rundschau*, July 9, 1899.

Report of a case where the adhesion presumably resulted from gummata situated on the base of the tongue. The cicatricial contraction of ulcerations in this situation would tend to draw the epiglottis forward toward the tongue. Swallowing, especially the swallowing of air, requires more of an effort than is normal, and when a solid substance is swallowed part of it returns and must be swallowed a second time. There is absolutely no trouble with food passing into the larynx. This latter fact has caused the author to make a very interesting resumé of the modern views as to the method of closure of the larynx during the act of swallowing. It seems to be the opinion that the larynx itself takes but little part in this process. The closure is effected by structures lying directly above it. These are: 1, a fatty cushion which is limited above by



the hyo-epiglottic membrane, posteriorly by the epiglottis itself, and anteriorly by the thyro-hyoid ligament; 2, the hyo-epiglottic membrane itself, and, 3, the base of the tongue. During the act of swallowing the hyo-epiglottic membrane and the base of the tongue become rigidly fixed; the fatty cushion is pressed against them by the rising larynx in such a manner that it can only spread out posteriorly where it is opposed only by a movable structure—the epiglottis.

The physiology of the act of swallowing may therefore be briefly given as follows:

The larynx rises to the hyoid bone, which latter is also elevated. In this way the fat cushion is compressed from above downward so that it drives the epiglottis downward toward the upper laryngeal cavity. The ary-epiglottic folds fit snugly along the posterior border of the epiglottis. At the same time the upper laryngeal cavity contracts until the vocal cords and the false vocal bands are in contact. The arytenoid cartilages also approach each other. Traction of the hyoid bone and the larynx forward underneath the tongue. A downward and forward motion of the root of the tongue so that the epiglottis lies in the glosso-epiglottic fossa, which has been drawn under the root of the tongue. Pressure of the fat cushion and the epiglottis against the base of the tongue so that they are driven into the upper laryngeal space like a stopper.

VITTUM.

#### **Tuberculosis of the Pharyngeal Tonsil**—DR. LEON LEWIN—

*Archiv für Laryngologie, Band ix, Heft 3.*

This extensive paper begins with a review of the literature of the subject. The earlier views of the scrofulous nature of hypertrophy of the organ are mentioned, and many of the author's writing on the subject are cited.

The material examined is divided into two groups. In the first the endeavor was by all well known scientific means to ascertain how often a hyperplasia of the pharyngeal tonsil is the seat of latent tubercular processes. For this purpose 200 subjects were examined.

The second group consisted of pharyngeal tonsils removed post mortem from the tuberculosis. Among these were many where no hypertrophic process was present.

Long and careful analyses are made of this material, and deductions drawn in many directions. Of the 200 cases of hypertrophied tonsil ten were found to conceal tuberculous tissue. This percentage nearly agrees with that of all the published cases the author could find. These amounted to 905 cases with 45 cases of tuberculosis. His final conclusions are as follows:

1. According to our investigations, hyperplastic pharyngeal tonsils conceal tuberculosis lesions in about 5 per cent of the cases.

2. The tuberculosis is present in the so-called tumor form; it is characterized by the absence of surface indications of its presence—latent tuberculosis of the tonsils.



3. This "latent" tuberculosis may apparently be the first and indeed the only localization of the disease in the individual.

4. It is generally, however, associated with other tuberculous processes, generally of the lungs, which may however not have developed at the time the tonsil was operated on.

5. It is a comparatively frequent condition among those suffering from tuberculosis of the lungs.

6. It is found in the normal sized tonsil as well as in the hyperplastic. Whether it may cause hyperplasia by the development of some toxin is doubtful. It can however retard the normal involution of the tonsil.

7. Its part in the etiology of hypertrophy of the pharyngeal tonsil is unimportant.

8. By removal of the tonsil the disease may be removed, even though tuberculosis of the lungs be present. VITTUM.

### III. ACCESSORY SINUSES.

**Diagnosis and Endonasal Treatment of Empyema of the Frontal Sinus**—GUSTAVE SPIESS (Frankfurt)—*Jour. L., R. et O.*, November, 1899.

Local symptoms are not to be trusted. We must employ three methods, according to this writer, to make a diagnosis: (a) The examination of the nose. (b) Exploratory syringing through the internal opening. (c) Exploratory puncture from the interior of the nose is absolutely certain.

The results obtained from transillumination are rather doubtful as asymmetries occur frequently. Probing for the canal, even after copious application of cocaine, is a very difficult matter. The probes are easiest introduced when bent in a semicircle. A description of a method of probing and puncture with an electric drill is detailed. With the assistance of the X-rays the difficulties and dangers may be easily faced. The drill is watched through the Röntgen screen.

In chronic cases the endonasal opening and syringing should be first tried, and an external operation only employed if success is not obtained by the endonasal treatment, and when the patient insists upon further operation. The author cannot conscientiously advocate the external operation. LEDERMAN.

**The Bacteriology of the Accessory Sinuses of the Nose in Diphtheria and Scarlet Fever**—R. M. PEARCE—*Journ. Boston Soc. of Med. Sciences*, March, 1899.

Report of examinations of the nose in fifty cases of diphtheria and scarlet fever from post-mortem material of Boston City Hospital.

The conclusions are that infection of the antrum of Highmore is quite common in fatal cases of these diseases. The microorganisms usually found are diphtheria bacillus, pus cocci and pneumococcus.

The symptoms in these cases were not assertive enough to attract attention in life. The practical question is whether infection takes place as frequently in those cases which recover as in those which are fatal—if so, does it lead to subacute or chronic sinusitis? In view of its frequency in fatal cases the answer is likely that it occurs in cases that recovered, clearing up with no ill effect, or altering the lining membrane so as to make it an easy subject to chronic antral disease following acute nasal inflammation. The author believes infection of the antrum explains the persistence of diphtheria bacilli in the nasal discharge long after obvious symptoms have passed, not uncommonly found. Le Genore and Pochon (1895) obtained positive cultures from the nose fifteen months after nasal diphtheria.

F. C. E.

**Chronic Muco-Purulent Catarrh of the Antrum of Highmore Simulating Post-Nasal Catarrh**—A. J. BRADY (New South Wales)—*Journ. of Laryng., Rhinol. and Otology*, November, 1899.

The presence of pus in the middle meatus of the nose, when viewed from the front, and its reappearance after being wiped away on suspending the head, is one of the most evident signs of chronic abscess of the antrum. In the variety of antral disease mentioned by the author, pus is never seen in the anterior nares, even after inversion of the head. The patient complains of "catarrh of the throat." Post-nasal secretion causes him to hawk and expectorate. A bad odor in the nose exists at times. Muco-pus is seen in the naso-pharynx, and is found to issue from below the posterior end of the middle turbinal on one side. This condition often gives rise to a diseased state of lining membrane itself, which is apt to be judged the source of irritation.

Transillumination may not show the presence of existing antral disease in such cases. The writer mentions such a case. He prefers the engine and burrs to open the antrum, and favors the canine fossa as the point of selection.

M. D. LEDERMAN.

**The Diagnosis and Treatment of Chronic Empyema of the Frontal Sinus**—W. MILLIGAN—*Jour. L., R. et Otology*, November, 1899.

The difficulty attending an accurate diagnosis in these cases is the uncertainty as to whether the flow of pus, which is seen through the intra-nasal examination, comes from the frontal sinus or from one of the other accessory nasal sinuses. Secondly, the frequent absence of any local symptoms. The author considers the presence of pain or tenderness upon pressure, just under the supraorbital arch, over the floor of the sinus, a diagnostic sign. To elicit this symptom the finger must be introduced well within the supraorbital arch, and not merely under the arch, for in this manner pressure is brought to bear upon the floor of the sinus.

Transillumination is not a positive diagnostic factor, but with the existence of local symptoms its application may afford considerable assistance.

The treatment of this affection is a question which must be carefully considered. The cranial contents are in close proximity, and the danger of infection to these tissues must be borne in mind. These complications are not common, but are at times met with.

When no pain is present, and where the nasal drainage is good, palliative measures may be employed. If free drainage can be secured by means of anterior turbinectomy, or cauterizing the swollen mucous membrane this should be attempted. In some cases the sinus may be cleansed by means of a Lichtwitz's cannula. This the author believes is attended with some risk, and should be discouraged. In those cases where recurring attacks of pain, indications of cerebral irritation, failure of general health from septic absorption, neuralgic pains about the head or the back of the eye, or failing vision, we must consider the advisability of performing a radical operation.

The median incision affords a larger and unexampled field for inspection and subsequent treatment of the flow of the sinus, though the scar left is much more unsightly than the supraorbital incision.

LEDERMAN.

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#### IV. LARYNX AND TRACHEA.

##### Treatment of Acute Laryngitis in Children—G. VARIOT—

*International Clinics, Vol. 1, 9th Series, April, 1899.*

In simple, uncomplicated forms of this disorder, steam inhalation is recommended as a most efficient remedy. It may be given by means of an inhaler or any practical substitute. A mustard foot bath should also be advised, and the throat painted with iodine and enveloped in cotton. If cough is incessant—preventing sleep—one of the best remedies is syrup of codeine, given in small and repeated doses. In more severe cases the front of the neck should be sponged with hot water.

If the case presents a spasmodic element in addition to the inflammatory condition, the treatment must be more methodical. The child should be placed in a spacious, light and well ventilated room, in which the temperature is maintained at from 15° to 18° C. (59° to 64.4° F.) and the air kept charged with steam. Some writers claim that the steam is more efficacious if some volatile disinfectant be added, and Goodhart recommends the use of a paste composed of creosote  $\mathfrak{J}$ i and powdered gum arabic  $\mathfrak{J}$ ii to which is added two fluid ounces of a 5% solution of carbolic acid, the whole being put into a vessel containing one pint of boiling water. Turpentine and tincture of benzoin are also recommended. The author, however, maintains that the benefit is derived from the steam alone, and has given up adding anything to the water



that is to be boiled. He believes that the saturated air alone, entering the larynx and air passages is enough to control the phrenoglottic spasm, and that it probably does so by loosening the mucus and facilitating its expulsion. He believes that in children in whom the voice is normal, and no false membranes are present on the vocal chords, the often violent spasm is kept up by the accumulation of mucus in the hypoglottic region—experiments having proved that stimulation of the mucous membrane of that region, similar to that caused by the presence of mucus, may go so far as to bring on tetanic occlusion of the orifice. The favorable effect of the steam is doubtless due also, in part, to its influence on the nerve terminations in the mucous membrane of the larynx, modifying the spasmodic reflex.

Attention is called to this method as a good means of differential diagnosis between true and false croup. The hospital "vapor room" and the vapor tent are described, and while many advantages are claimed for them, it is admitted that they have their disadvantages, especially during the hot months, when the atmosphere within them becomes disagreeable. Under such circumstances use of the direct spraying apparatus is advocated. Mention is made of the various medicinal sedatives that may be used for lessening the phreno-glottic spasm—principal among which are bromide of potassium, ether, musk, belladonna and acconite, in varying combinations and proportions. The author, however, especially recommends codeine. He has found that it is well borne in doses of  $\frac{1}{6}$  gr. each 24 hours, below one year of age, and  $\frac{1}{8}$  gr. at age of 3 and over. For systemic effects, the alternative tonics should be employed. When all medical means fail, and surgical treatment becomes imperative, the author gives his preference to intubation over tracheotomy, where it is possible to have the patient constantly attended by an experienced person, who will know how to act in case of accident, such as dislodgment or obstruction of the tube, Where such attendance cannot be had, he does not appear to favor intubation. Ross.

**A Contribution to Laryngofissure—C. NASI—*La Clinica Chirurgica*, Anno 7°—N°. 4, Aprile, 1899.**

As a proof the value of this operation, especially in stenosis subsequent to tracheotomy, the author gives the following clinical observation: A child of five had tracheotomy performed on account of laryngeal polypus. After two months a second polypus was removed through a low tracheotomy, but it was found necessary to retain the cannula as respiration was otherwise impossible. The patient presented himself two years afterward, asking to be freed from the cannula, his respiration having become still more obstructed. Professor Ruggi, thinking that the stenosis might be due to the recurrence of papilloma, had recourse to laryngofissure. Having divided the thyroid cartilage and opened the larynx he removed numerous small papillomata, and having curetted the part provided for the dilatation



of the laryngeal canal by a special method of plugging. He introduced into the laryngeal wound a pouch of rubber cloth, and filled this with small pieces of sterilized gauze. The wedge shape taken by this pouch served as a dilator, while the rubber cloth has the advantage of not sticking to the mucous membrane. This dressing was renewed daily for several days, then every two or three days during two months, till at last the cartilages had yielded to the action of the tampon, when the cannula was removed and the tracheal fistula and laryngeal wound were closed, and twenty days later the patient left the hospital cured, with his voice still aphonic, but slowly becoming clearer.

FERRERI.

**A Few Little Changes in Tracheotomy Tubes**—RICARDO BOTEY  
—Barcelona—*Archiv für Laryngologie, Band ix, Heft 3.* -

The principal change suggested is, that the inner end of all tracheal tubes shall be continued in a straight line for one or one and a half centimeters. This the author thinks will prevent the escape of the tube from the trachea, an accident which occasionally happens where the whole tube is the segment of a circle.

In order that the inner tube may fit snugly into this straight portion and yet be removable, its own straight section is composed of three spirals which accommodate themselves to the curved portion of the outer tube as they are drawn or pushed through. He approves of the Lüer tracheotomy tube in so far as the tube is loosely attached to the outer shield, thus allowing the tube proper to rise and fall with the trachea during respiration and avoid all rubbing on the endotracheal mucous membrane. They are rounded off at the inner end and not cut squarely across. Each tube is about 2 mm. smaller in diameter at the inner end than at the outer. Several changes in the shape of the outer shield are suggested. This pattern is both narrower and shorter than that in ordinary use; while the tube does not pass through the middle of the shield but near its upper border. The edges are turned outward to avoid injury to the surrounding soft parts. Some other slight modifications are suggested, but these are the most important.

His own set of 4 tubes have the following measurements:

No. 1. Curved on a radius of 7 cm., is 6 mm. in diameter at the inner and 8 at the outer end. Its length is  $6\frac{1}{2}$  cm. This is for children 1 to 4 years of age.

No. 2. Curved on a radius of 8 cm., is 8 mm. in diameter at its inner and 10 at its outer end. Its length is 7 cm. This is for children 4 to 10 years old.

No. 3. Curved on a radius of 8 cm. Diameter of inner extremity 10 mm., outer extremity 12 mm. Length  $7\frac{1}{2}$  cm. For women and youth of 10 to 15 years.

No. 4. Curved on a radius of 9 cm. Inner end 12 mm. in diameter, outer 15 mm. Length  $8\text{--}8\frac{1}{2}$  cm. For adults and youths of more than 15 years.

VITTUM.

**The Treatment of Nervous Aphonia**—GUSTAV SPIESS—Frankfort, Maine—*Archiv für Laryngologie, Band ix, Heft 3.*

After referring to the milder cases of hysterical aphonia which yield to almost any form of treatment, the author advances to the consideration of those severe and long continued cases which usually resist all efforts for their amelioration. He draws attention to the irregular and incoördinate contraction of the muscles of phonation. In severe cases he finds invariably that there is a spastic condition of some set of muscles which interferes with phonation. This condition may affect the muscles of the tongue, the mouth, the neck, etc. Wherever it may be, he attempts to overcome it by passive movement and massage of the parts. He then adopts a plan of deep respiration and the methodical practice of certain vowel sounds. His experience has been that few, if any, cases fail to respond to this treatment.

The same methodical practice of these various vowel and consonant sounds is recommended as a routine measure after the extirpation of Singer's nodules; also in cases of strained vocal cords in consequence of faulty tone production (as with preachers, teachers, and especially military officers.)

VITTUM.

**Reflex Cough**—GEO. L. RICHARDS—*Med. Rec.*, August 5, 1899.

Under reflex cough the author includes all coughs of extra-respiratory origin, which are due, directly or indirectly, to irritation of the fibres of the pneumogastric nerve, peripheral or central. The wide distribution of this nerve explains how manifold are the possibilities of origin of reflex cough. Included in reflex coughs are the coughs of pressure origin, aneurism, enlarged thyroid and new growths outside the trachea and larynx. Nasal coughs are included as the vaso-dilator nerves communicate with the pneumogastric. Reflex cough is characterized by some of the following: Sudden appearance; rhythmical character; free intervals where no signs of cough are present; expectoration, absent or slight in amount; no fever or marked constitutional disturbance; may continue for years, or stop at any time, or eventuate in other symptoms; may come at regular intervals; stops when attention is drawn to something else; is worse when patient is under observation; if it stops for a time begins with an explosion; is usually absent at nights, always if purely nervous; absence of physical signs in respiratory tract; cough apparently useless; complaint of usual symptoms of catarrhal cough; tone various, as hacking, bellowing, shrill, croupy, metallic, or hoarse from tune cords. The diagnosis is often difficult. Reflex coughs may be due to pregnancy, uterine disease, bladder, intestines, liver, stomach, ear, and a case is mentioned where cough of a terrific character persisted for years from irritation of an old cicatrix the result of removal of a benign tumor from the shoulder blade. A series of cases illustrative of various forms taken by reflex coughs are submitted.

F. C. E.

**Two Cases of Catarrhal Hemorrhagic Tracheitis**—G. PISENTI—  
*Archivii Italiana di Laringologia*, Fasc. 3°, 1899.

*First Case*—A young man of twenty-two, in good health and condition, after a bicycle ride, was seized with hemoptysis. An examination of the chest was negative, the author thought that he must have to do with a case of pharyngeal or laryngeal hemorrhage, although the point of origin was not visible. Two years afterward the patient was suddenly seized with a second hemoptysis, produced by moral depression. As in the first case, the hemoptysis ceased in a few days and the examination of the chest was negative. Being assured that there was nothing serious, the patient enjoyed good health for three years, when he presented himself again with a third hemoptysis. No explanation was found in the chest, but being anxious about his condition the patient went seeking advice from several physicians and laryngologists, finally returning to ask help from the author who proceeded to make a tracheoscopic examination. He found the characteristic varicose dilation of the veins which run below the mucous membrane between the cartilaginous rings of the trachea.

*Second Case*—A robust youth had suffered in childhood from epistaxis. At the age of sixteen he had his first hemoptysis, which was repeated after two years, preceded by a feeling of irritation in the throat, examination of the chest and sputum was negative; laryngoscopic examination showed varicose dilation of the tracheal vessels.

The author explains this hemoptysis as due to hereditary weakness of the veins. In the first patient he observed the extraordinary development of the veins in the hands, limbs and neck, with slight varices on the legs, and the author traced in the family several relations affected with hemorrhoids, the father suffering from large varicose veins in the legs. In the second case the frequent epistaxis, together with the fact that the uncle suffered in the same way, while the grandfather had both varicose veins and hemorrhoids, tend to prove the hereditary nature of the affection.

FERRERI.

**Normal Breathing in the Treatment and Prevention of Tuberculosis**—GEO. J. HOLMES, New Britain—Reprint from Proceedings of Conn. Med. Soc., May, 1899.

Much of this article deals with the anatomy and physiology of the respiratory apparatus. Some general sanitary discussion is introduced not strictly germane to the title, and at the end an article discussing otitic tuberculosis, including therapy, is inserted that more properly should constitute a separate paper, since it has nothing to do with breathing as a preventive and therapeutic measure for tuberculosis.

The importance of free respiratory passages is urged and some interesting estimates are furnished showing the amount of oxygen necessary to the normal human economy.

F. C. E.



**Case of Intrinsic Cancer of the Larynx; Total Laryngectomy;  
Recovery—J. W. LEECH—*The Lancet*, February 18, 1899.**

The patient was a man, aged fifty-seven, with a five months' history of dyspnea and dysphagia. The local condition is described as follows: "A small pearly, white nodule was seen in the middle of the right cord, while in a corresponding position on the other cord a smaller nodule was just discernible. The two cords, which were markedly hyperemic, were not so mobile as when seen on the previous occasion, the right being the more fixed." The glands were not involved. No venereal history. The operation was performed on November 6, 1898. Tracheotomy was performed, and the thyroid was split, when the growth was seen to be very extensive, reaching down into the trachea. As the patient was then rather collapsed, and as it was seen that nothing but total extirpation could afford any relief, the patient was put back to bed till November 17, when total laryngectomy was performed, including the cricoid and the first three rings of the trachea. There is a full account of the progress of the case, and of the steps taken to adapt an artificial larynx.

As to the microscopical appearances, on cutting and mounting sections which had been stained in bulk by the picro-carminic method, the growth was seen to present the following conditions: A dense layer of squamous epithelial cells bounded the tracheal surface of the growth, the most superficial of which, having taken the stain very indifferently, were rather indistinct. From the deep surface of the prolongations were to be seen here and there dipping into the subjacent tissues. In a dense stroma of new connective tissue, in which there were marked cellular infiltration and nuclear proliferation, numerous squamous nests of various sizes were seen. These were most abundant towards the free surface of the growth, diminishing markedly in number when followed outwards.

The author summarizes his conclusions, and in view of the interest of these cases we give them in his own words:

"If I may be pardoned for presuming to offer suggestions founded on the experience of one case only, I would like to make the following observations: (1) The advantage of an interval of time between the tracheotomy and the more serious operation, which in this case at least was most marked, cannot be over-estimated. Not only by affording almost complete relief to the dyspnea and in a less degree to the cough did it effect a profound improvement in the patient's general condition, but also by dividing the shock, as it were, it gave the patient time to rally under immensely improved conditions. The breathing, too, under the anesthetic on the second occasion, when tolerance to the tube had been established, was much more satisfactory. (2) Seeing that this is an operation *par excellence* where time is of the utmost importance, it is difficult to understand why in most of the recorded cases the operator has usually selected a Hahn's sponge tampon, which



necessitates a delay of fifteen minutes for its dilatation. On this account, and because Trendelenburg's tube, which can be immediately dilated, lends itself far more readily to asepsis than does Hahn's, I very much prefer the dilating tampon-tube. (3) The extensive nature of the growth in this case, with the entire absence of glandular involvement, would seem to support Semon's view of the isolation of the laryngeal lymphatics, but, unfortunately, Sappey's anatomical investigations, which have entirely disproved that eminent laryngoscopist's contention, compel one to admit that the question yet awaits a satisfactory solution. (4) The ease with which deglutition was performed almost immediately after consciousness had been regained, the non-necessity for Symond's tubes, and the entire absence of anything like the alarming hemorrhage which is often encountered in these cases, and which, in this case, might have been excessive, as the patient had a short, stout, muscular neck; I attribute entirely to the adoption of the method suggested by Mr. Henry Morris of freeing the perichondrium and its attachments with a raspator, and avoiding the severance of any muscular structure other than the platysma. (5) The very low tracheotomy which was done in spite of Guessebauer's contention to the contrary, with a view to secure more ample working space, was afterwards justified by the extensive nature of the growth. (6) Seeing that in cases of malignant disease of the larynx attempts at sampling the growth by intra-laryngeal snaring frequently prove abortive, and, moreover, often stimulate growth, I consider thyrotomy to be infinitely preferable, and that it ought to be performed in doubtful cases, as by this means the extent and nature of the disease are accurately determined, and treatment can, if consent be previously obtained, be carried into effect immediately."

STCLAIR THOMSON.

**A Case of Hysterical Larynx**—F. C. HOPKINS—*N. Y. Med. Jour.*,  
Dec. 2, 1899.

The patient was a girl fifteen years old, anemic, nervous and rapidly growing. Aside from the throat symptoms there were no other hysterical symptoms. At the time of school examinations she had an attack of pertussis. The whoop continued, but developed into a squeal, similiar in character to that of a badly hurt pig. This squeal became both inspiratory and expiratory, which was preceded by a sense of tickling in the throat. She was brought to the writer for a peculiar and terrifying spasm of the larynx, which frightened the occupants of the doctor's waiting room.

Some relief was given by the larynx examination and an application of the galvano-cautery to an enlarged lingual tonsil, but the attack soon returned and patient was referred to the "nervous ward" of a hospital. Though treated for four months no good was accomplished. The introduction of an intubation tube afforded a happy result, as there was no recurrence.

LEDERMAN.

## V. EAR.

**Meatus with Abnormal Direction**—EMIL AMBERG—*Physician and Surgeon*, April, 1899.

At the meeting of the Detroit Medical and Library Association, on February 27, 1899, I presented a patient with an abnormality of the meatus on both sides. The photograph (see figure) has been taken after wooden sticks, covered at their ends with cotton,



had been introduced into the external auditory canals for about 1.5 centimeters from the outer upper margin. The patient, Mr. J. P. B., thirty-two years old, is tall, has a somewhat high, well-rounded hard palate, and a rounded depression in the lower sternal region, of about ten centimeters in diameter and four centimeters in depth.

A. A.

**Compound Comminuted Fracture of the Osseous Wall of the External Auditory Canal**—JAS. J. CARROLL—*Journ. Eye, Ear and Throat Diseases*, Vol. iv, No. 3, July, 1899.

Preliminary report. The patient fell upon a pavement on his chin. A detailed account, with the result, will be given in a future paper.

EATON.

**Bilateral Aural Lesion Following Traumatism—J. F. McCaw—**  
*Annals Otol., Rhinol. and Laryn.*, February, 1899.

Case of supposed double labyrinthine trouble, incident to a fall upon the back of the head. Patient had no ear trouble previous to the trauma. Immediately thereafter was siezed with headache, epistaxis, vertigo, nausea, vomiting, severe tinnitus, but retained consciousness. At end of four days these symptoms abated, but hearing failed. After nine months when case was seen by the author there was a high degree of impairment of hearing, and the usual indications of internal ear disease. Case was under observation one month, during which time pilocarpin, strychnia and iodide of potash were employed with negative results. Patient then passed from observation. The only other similar case the author finds was reported by Kaufman, *Vienna Medical Journal*, 1897. The extreme variety of symmetrical traumatic lesions, and the complexity of the acoustic apparatus leaves the diagnosis doubtful. F. C. E.

**On the Use and the Value of Auditory Exercise in Deaf-Mutes and the Very Deaf—TREITEL—***Klinische Vorträge aus dem Gebiete der Otologie und Pharyngo-Rhinologie—II Band*, 11 Heft, 1898.

In this monograph the author has reviewed the labors of many workers in this line. Particular attention, however, has been given to the reports of Urbantschitsch and his method is given in considerable detail. Although the results obtained by Urbantschitsch seemed at first to warrant great hopes of achievement in this direction, yet a calm and dispassionate summing up of all the obtainable reports seems to show that no real practical progress has been made. Among deaf-mutes quite a large per cent have some power of hearing. It is of course very slight, but, by carefully cultivating this little, some of the patients reached a point where they seemed to hear words and even phrases spoken at a distance of several feet.

Close scrutiny of these cases, however, showed that in almost every instance the patients comprehended clearly only those phrases with which they had become familiar by frequent repetition. No practical gain in the direction of intercourse by word of mouth had been made.

These attempts have, however, brought into prominence the fact that there is a form of deafness, we may call it functional, or hysterical if we will, where the amount of auditory disturbance is much greater than we should expect from the changes that have taken place in the organs involved. The functional disturbance is out of all proportion to the lesions. These cases frequently recover. Urbantschitsch has proved that auditory exercises help this class when all other therapeutic measures have failed. It is, therefore, advisable to practice these exercises in all cases where functional deafness is suspected. The real deaf-mutes are more benefited by learning to read the lips. VITUM.



**On Diphtheria of the Ear**—G. GRADENIGO—*Bollettino del Policlinico Generale di Torino, 1899. No. 10.*

The inadequacy of bacteriological studies on diphtheria in the ear has stimulated the author to the publication of this note. Having indicated the method in which both directly and in a secondary way the diphtheritic process gets localised or transmitted to various parts of the ear, he goes on to describe the clinical appearances of diphtheria of the auricle, of the external meatus, and of the middle ear. The ulcerations of the dermis covered with adherent pseudo-membranes, the swelling of neighboring glands, constitute according to the author the characteristics of diphtheria of the auricle and meatus. Greater gravity is presented by diphtheric acute otitis media, its diagnosis resting on two points—the onset of fibrinous membrane from the ear through the tympanic perforation, and the demonstration of the Clebs-Löffler bacillus in the exudation. The treatment suggested by the author is general and local; that is to say, consisting in the administration of anti-toxin and providing for the supparation of the false membrane by peroxide of hydrogen, weak solutions of corrosive sublimate, and non-irritating antiseptic powders. In otitis interna and in suspected neuritis of the auditory nerve, the author has recourse to diaphoresis with vapor baths, and then makes use of iodides, strychnine and tonics

FERRERI.

**Two Cases of Otitic Meningitis; Recovery**—BORMANS—*Gazetta degli Ospedali, No. 91, 1899.*

These two observations are interesting, not only for the happy recovery, but also on account of the importance and efficiency of Quincke's puncture. The first case was that of a boy affected with purulent otitis media, and representing the picture of true meningitis. Paracentesis gave exit to much pus, but an explorative antrectomy was negative. As the meningeal symptoms and papillitis persisted Quincke's lumbar puncture was carried out, and the liquid was found to be turbid, and when cultivated in broth very abundant staphylococci were found. They were also controlled by the examination of the blood of a mouse which had received an injection of two c. c. of the broth culture. After the puncture the patient was better. A second puncture was carried out after five days, and the cure proceeded rapidly.

The second observation was in a woman aged 45, affected with purulent otitis media with meningeal phenomena. A small Quincke's puncture gave slight relief and a diminution of fever. The antrum having been opened and colesteatomatous masses being removed, a second lumbar puncture was practiced the following day and a cultivation of the liquid in broth showed staphylococci. Progressive and decided progress followed.

The author advises the practice of Quincke's puncture in these forms, in view of its harmlessness and the improvement brought about in the phenomena of compression.

FERRERI.

**Treatment of Uncomplicated Suppuration of the Middle Ear—**

H. A. ALDERTON—*Annals Otol., Rhinol. and Laryn.*, February, 1899.

The author advocates pilocarpin and atrophin in acute non-suppurative inflammation—the former to relieve the vascular tension in robust patients, and the latter to limit secretion. He occupies no middle ground upon the question of syringing, the soaking of the dressing calling for copious syringing “at least a pint of liquid repeated every two to four hours, according to the quantity of the discharge.” An antiseptic may be used, but is not necessary if the canal is thoroughly dried after each syringing—“the only purpose of the antiseptic being to prevent infection of the skin surface, as the solution never reaches the middle ear.” The ear is not contaminated from the canal if the latter is freed from decomposing substances. “The chances of forcing infected material into the mastoid cells being not worthy of consideration in contrast with the benefits derived, and this seems especially problematical since Forn’s experiments, and since Politzer has shown that the same process exists in the mastoid process.” “In all cases of suppurative otitic media in which there did not exist during life any traces of inflammation of the mastoid process, when an autopsy was made, we constantly found pus in the mastoid cells.”—*Ann. des Mal. de l’or*, 1892, No. 5.

Powders are never employed in acute suppuration; they never reach the inflamed surface, the perforation being too small, and they tend to pack in the nidus between the drum membrane and the antero-inferior canal wall, interfering with cleansing, obstructing the perforation, causing retention, and forming a nidus for decomposing secretions. The necessity for free drainage is emphasized in the discussion of chronic suppuration and the syringe advocated here, also. Should the perforation be at all small it is the author’s custom to excise, under cocaine, a large segment of the drum membrane in the region of the pre-existing perforation, the regenerative form of the membrane insuring satisfactory closure in the majority of cases. Then may the remedies reach the seat of the disease. The rest of the paper is along conservative and established lines.

F. C. E.

**On a Special Otoscopic Symptom in the Diagnosis and Prognosis of Hyperplastica Otitis Media—**GERONZI—*Bollettino della Società Lancisiana degli Ospedali di Roma*, Anno xix, Fasc. I° pag. 218).

The author has found that after catheterism and intra-tympanic injections of iodide of potassium, sulphide of pilocarpine, etc., in hyperplastic forms of otitis there is no consequent hyperemia of the tympanic membrane. This appears on the other hand in chronic catarrhal otitis, and is a favorable symptom of recovery. The author finds the natural explanation of this in the condition of circulatory irritation of the mucosa.

FERRERI.

**Otitis Media Chronica**—J. H. McCASSY, Dayton, Ohio—*Charlotte Med. Journ.*, January, 1899.

Suppuration of the middle ear has a death rate of  $2\frac{1}{2}$  per cent. The author states that suppuration, through neglect, passes from the middle ear and invades the labyrinth and causes the condition known as Menière's disease. Otorrhea rarely gets well without treatment on account of the absence of glandular element in the otitic mucosa. This membrane serves the double function of periosteum and mucous lining.

The incus is most often necrosed, because the blood supply to it is from one small artery, which is readily occluded by pressure from any slight swelling.

In the treatment of this disease drainage comes first, cleanliness is then an important factor. Antiseptic irrigation has a well-established position. In attic suppuration, the intra-tympanic canula is very useful. Any treatment that fails to remove the bad odor is not succeeding and should be changed. Pathological debris must be removed. The author does not believe in peroxide of hydrogen in the treatment of otorrhea, as the pressure of the gas liberated may cause damage to the soft parts.

Boric acid has proved itself a safe drug. Nosophen is mentioned as a very valuable drug in checking bacterial activity and in absorbing inflammatory products, thus promoting rapid healing in suppurating cavities and surfaces.

Nosophen gauze is preferred to iodoform, as the latter oftentimes causes considerable irritation. Perforations of the membrane are stimulated with a saturated solution of trichloracetic acid, as suggested by Stein, and an antiseptic powder, like nosophen, is dusted into the canal. Gauze is then placed in the ear. Weak solutions of silver are also employed to stimulate the perforations after the trichloracetic acid has been applied.

LEDERMAN.

**A Case of Sinus Thrombosis**—A. R. BAKER—*Cleveland Med. Gaz.*, September, 1899.

Marked symptoms of sepsis following an operation upon the mastoid in the absence of cerebral symptoms, lead to the diagnosis of sinus thrombosis. Exposure of the sigmoid sinus showed lack of pulsation, and no hemorrhage followed opening. The sinus was curetted upward till blood flowed freely, then it was tamponed with iodoform gauze. The lower portion was treated in the same manner, curetting well down into the jugular. Complete and uncomplicated recovery followed.

A. EWING.

**Delusional Insanity Following Concussion**—L. R. CULBERTSON—*Annals Otol., Rhinol. and Laryn.*, February, 1899.

Report of case of epileptic with tinnitus in left ear, dating from firing of a gun near the auricle and continuing ten years. The author concludes that concussion of the left auditory nerve caused the deafness with partial degeneration, and consequent hallucinations of hearing with which the patient was afflicted.

F. C. E.



**Objective Auditory Tinnitus from Clonic Spasm of the Soft Palate**

—GERONZI—*Bollettino della Societa Lancisiana degli Ospedali di Roma*, Anno xix, Fasc. I<sup>o</sup> pag. 211.

The author reports the case of a hypochondriac who in consequence of a serious disappointment commenced to suffer from the noise in the ear similar to the tic-tac of a watch. This was due to a clonic contraction of the levator palati which threw the uvula against the posterior wall of the pharynx. Otoscopic examination was negative. The author is of opinion that in neurotics affection of the soft palate is not rare, especially as a result of emotion. They would be due to irritation of the spinal vagus which he maintains is the enervator of the palate muscles, with the exception of the levator palati which is supplied from the third motor branch of the trigeminal

FERRERI.

**Mastoid Complications in Otitis Media Acuta**—S. G. DABNEY—

*The Medical Age*, October, 1899.

The writer describes a case of mastoid periostitis in a patient twenty-six years of age in which there were intense pain and marked fever. Free incision was followed by relief of all symptoms, and prompt recovery.

The same writer describes a case of mastoiditis in a child five years of age with absence of pain though the cells were found full of pus. He also describes one in which the mastoid cells and the antrum were united into one great cavity, though there was no involvement of the middle ear.

A. EWING.

**VI. DIPHTHERIA, THYROID GLAND, ESOPHAGUS, ETC.****Hemorrhage from Esophageal Varices in Latent Cirrhosis of the**

**Liver**—MARMASSE—*Gazette Hebdomadaire de Med.*, etc., January, 1899.

The author exhibited the liver and esophagus of a man who had had hematemesis without presenting at the time any sign of cirrhosis. Subsequently, however, cirrhosis of the liver was recognizable clinically. After his death, three varicose swellings were found in the lower portion of the esophagus, and there was an erosion, plugged with a clot, at the summit of each dilated venule.

SCHEPPEGRELL.

**The Use of Antitoxin in the Treatment of Diphtheria**—J. J.

WILLIAMS—*West. Med. Rev.*, Vol. iv, No. 2, February, 1899.

Contains remarks on this subject, and report of nine cases.

EATON.

**The Use of Diphtheria Antitoxin in General Practice, with the Results of the Treatment of 122 Cases of Diphtheria—**

J. R. ARMSTRONG—*The Lancet*, March 4, 1899.

This paper is written in view of the author's opinion that the general practitioners of the day do not employ antitoxin as often as they ought to do in the treatment of diphtheria, and do not seem to recognize the value of the sovereign remedy which they have at their disposal.

STCLAIR THOMSON.

**The Complications of the Serum Treatment of Diphtheria—**

CHARLES BOLTON—*The Lancet*, April 1, 1899.

These complications are the following: Rashes, pains in and around the joints, fever, transient albuminuria, abscess, bruising, and sloughing at the seat of injection, and certain constitutional disturbances.

In conclusion, one may say that the complications of antitoxin are at times very painful and inconvenient, but quite harmless, the only exception being one case in which sloughing occurred, and in that case the child was in an exceedingly bad condition, as the result of scarlet fever and diphtheria combined, when the antitoxin was administered.

STCLAIR THOMSON.

**Two Diphtheria Cases Treated by Antitoxin Hyperdermically, and Four Cases Immunized Per Orem—**

C. G. STIVERS—*South. Cal. Pract.*, Vol. xiv. No. 9, September, 1899.

The two cases treated by antitoxin injections presented nothing unusual. Four other children respectively eleven, six, four and two years of age were exposed; isolation was out of the question. Fifty to one hundred units of antitoxin, according to age, were given by mouth. None of the children contracted diphtheria, and no unusual reaction followed the antitoxin. In every way it seemed to meet the same indications as injection, but further observations are needed to establish the fact that antitoxin per orem is as efficient in immunizing, or therapeutically, as injection.

EATON.

**Some Thoughts in Regard to Diphtheria—**

E. F. STRICKLAND—*The New Albany Med. Herald*, October, 1899.

The writer holds that diphtheria and membranous croup are identical. Antitoxin is of value in cases of unmixed infection, but of little service if there is septic infection. The danger from antitoxin arises from the animal serum and the concentrated form should be employed. In addition to antitoxin he makes free use of stimulants if the heart is weak or very slow, or vomiting occurs. He has never seen a case of diphtheria recover in which the pulse dropped down to forty or below. He treats the mucous membrane by free washing with hot normal salt solution. If nephritis occurs he wraps the patient in a hot pack three or four times a day and gives large amounts of water to drink.

DETWILER.

**Two Hundred Consecutive Cases of Diphtheria Treated with Anti-Diphtheritic Serum**—A. J. TONKIN—*The Lancet*, October 21, 1899.

This study is illustrated by a series of interesting tables showing the mortality according to the situation of the membrane, according to age and sex, in relation to day of illness on which antitoxic treatment was begun, etc.; also tables showing the amount of albumin cases, the frequency and the mortality of tracheotomy, etc.

The foregoing figures and statements tend to establish the following results as to the use of antitoxin: (1) The general mortality rate is reduced. The mortality cases treated during the first three days of illness is reduced to about 3 per cent, and that for all other cases to about 12 per cent. (2) Laryngeal cases treated early are markedly affected for the better, the death-rate being very considerably reduced. (3) The tracheotomy mortality is very much lessened. (4) There is less need for tracheotomy if treatment be begun early. (5) All ages and both sexes are equally affected. (6) The chances of nephritis are lessened. (7) When treatment is begun early albuminuria may not appear, will probably not be severe, and will disappear soon. (8) Paralysis is lessened for cases treated on the first and second days of the illness. The paralysis mortality is much reduced. (9) Extension of disease to the larynx and parts below was not noted after injection of antitoxin. (10) The only disadvantage noted after its use was a slight discomfort for a few days from urticarial rashes and pains in the joints in a small percentage of the cases. The conclusions arrived at may be taken as a plea for early diagnosis and early antitoxic treatment.

STCLAIR THOMSON.

**Diphtheria and Intubation**—C. C. FURLEY—*Kan. City Med. Index-Lancet*, Vol. xx, July, 1899.

The writer considers that intubation is more likely to aggravate than cure that class of cases where the inflammation extends to all parts of the bronchial ramifications and the stenosis does not exist in the trachea alone. On the other hand, where diphtheria is present, intubation is the better operation.

EATON.

**Probable Persistence of Thyro-Gland Duct**—I. W. MCINTOSH—*British Medical Journal*, May 6, 1899.

A woman, aged twenty-one, with enlarged thyroid gland, had offensive discharge in her throat without vomiting or coughing it up, and with no accompanying catarrh. When discharge was profuse she remarked diminution in size of enlargement, and firm compression on the gland produced the discharge.

The author thinks it might probably be a persistent thyro-gland duct from the middle lobe of the thyroid gland. Inunctions of lanoline and iodoform over the thyroid gland cured the discharge in about a month.

FOXcroft.



**Foreign Bodies in the Pharynx and Esophagus**—ROBERT JONES—*The Lancet*, May 6, 1899.

The article is a consideration, with some personal experiences, of the guiding principles in the treatment of foreign bodies in the upper food passages. From a study of his own cases of esophagotomy and a perusal of general results, the author submits the following conclusions: (1) That bodies which have lain for some time and given rise to symptoms of obstruction, irritation or dyspnea should be operated upon without delay; (2) that forcible attempts at extraction by the mouth are to be condemned; (3) that sharp or irregular impacted bodies specially demand esophagotomy; (4) that in certain cases gastrotomy is indicated and in some a combination of gastrotomy and esophagotomy; (5) that where the wound in the esophagus is jagged or its walls inflamed no stitches should be used; (6) that the routine practice where the esophageal wound is clean cut is to stitch it up with a continuous suture, care being taken, as in the case of the intestine, not to pierce the mucous coat; (7) that only in very exceptional cases, where no danger of suppuration and infection exists, should the external wound be closed; and (8) that liquid food may be given by the mouth in about twenty-four hours after operation. STCLAIR THOMPSON.

**Diphtheria, Analysis of One Hundred Cases**—J. M. DAY, Dublin—*Dublin Med. Journ.*, August, 1899.

The writer briefly analyses the cases admitted into hospital during the year 1898-99, the total 100, was the largest number of admissions recorded in any year, and it also showed the lowest death rate, eighteen cases were fatal. Antitoxin was found the most successful form of treatment. Sometimes a severe type of case came under treatment, sometimes a mild, these types varying at different periods of the year. There were sixty-seven cases where the diphtheria was mainly tonsillitic, of these two died, twenty-seven had associated nasal diphtheria, and of these ten died, sixteen had laryngeal symptoms and six died. The writer insists on the necessity of early treatment and comments on the insidious commencement of the disease with apparently few symptoms.

A. LOGAN TURNER.

**VII. INSTRUMENTS AND THERAPY.****The Local Use of Formalin in the Treatment of Atrophic Rhinitis,****Etc.**—ADOLPH BRONNER, Bradford—*Journ. Laryn. Rhin. et Otol.*, October, 1899.

The first indication in this affection is to thoroughly cleanse the cavities and remove the inspissated crusts. The second indication was to alter the nature of the secretions of the mucous membrane, and thus prevent the accumulation of dried secretion.

For this purpose the author orders an alkaline lotion to be used with a Higginson's enema syringe. If there are any patches of hypertrophied tissue, these are removed with the galvano-cautery or trichloracetic acid.

He employs in bad cases a 1 to 1,000 to 1 to 2,000 solution of liquid formalin with water, to be used with a small nasal syringe, or a 1 to 500 to 1 to 1,000 solution with a little of glycerine added, to be applied with a coarse spray, three or four times daily. Formalin seems to have a powerful effect upon the glandular tissues. In his experience the maxillary antrum was affected in about 25 to 30 per cent of cases.

LEDERMAN.

**Nosophen and Antinosine**—WM. MANN, Chicago—*The Med. Fortnightly*, October 2, 1899.

Nosophen is recommended after enucleations of the eye ball, being dusted in the orbit. Healing takes place rapidly and no infection follows. Daily applications of this remedy, and hourly applications of a two (2%) per cent solution of antinosine has given very good results in spreading ulcers of the cornea. The former drug is said to be of decided service in assisting the absorption of corneal opacities.

In aural work, nosophen mixed with equal parts of powdered boracic acid has given good results in chronic suppurative disease of the middle ear. The nosophen gauze in the external canal promotes drainage. The gauze can be freshly sterilized by dry heat.

In acute suppurative cases and in chronic instances, where irrigation is desired, antinosine solutions, in two and three per cent solutions are advised. First cleanse the canal and middle chamber, and then fill the canal with the antinosine solution.

The nosophen salve is said to act satisfactorily in chronic eczemas of the canal.

A number of causes are cited in which these new antiseptics were used with pleasant results.

LEDERMAN.

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## JOSEPH C. MULHALL.

THE LARYNGOSCOPE must convey the sad news of the death of this distinguished laryngologist to many who knew him, and valued his teachings. He had long been a victim of an incurable nervous malady, which of late had so worn upon his vitality that in a moment of melancholy he was driven to end his life.

Dr. Mulhall was born in St. Louis in 1851, graduated from the St. Louis University, and took his degree in medicine from the St. Louis Medical College. Later, he studied in Dublin, Vienna and Berlin, and was for long an assistant to Sir Morrell Mackenzie. He commenced practice in St. Louis in 1879, and rapidly rose to distinction. Until last year, when he resigned on account of ill health, and was accorded the title *Emeritus*, he was Professor of Diseases of the Throat, Chest and Climatology in the Beaumont Hospital Medical College. Many practitioners who listened to his lectures stand ready to attest his success as a practical teacher.

In 1898 Dr. Mulhall was President of the St. Louis Medical Society, and he was also a member of the American Laryngological Society, American Climatological Society, American Medical Association, Missouri State Medical Association and numerous other organizations, in all of which he was active. His contributions to medical literature covered many and diverse subjects, and his intuitive genius developed several valuable instruments. His reputation extended over the land and across the sea. An honored member of several of the most exclusive scientific societies in America, when he spoke wise men sat still and listened. As a diagnostician in the sphere of laryngology, and all of the chest, he had few peers, and no superiors in the entire West,

If it be true that a prophet is not without honor save in his own country, then Dr. Mulhall belied the proverb. Here, at home, his death is considered a calamity by the profession, who are the best judges of his worth. Under the cold and critical eye of his confreres he sustained their confidence.

No physician in St. Louis did a larger consulting practice, and none as large in his chosen field. He was a specialist in the broadest and best sense. As Lord Bacon "took all knowledge for his province", he took all of the human economy for his province, and laryngology for his practice. An original and aggressive thinker, his resourceful mind evolved the simple truth from the most complex and abstruse scientific problems. His professional position was the reward of true merit. Fine arts and smooth ways, that frequently supercede merit, or gain for their possessor a place beyond his deserts, did not contribute to his success. Like Antony, he was "a plain, blunt man." Sentiment nor sympathy allowed him to cloak a condition if the truth was wanted. In a spirit of kindly advice he once said to the writer: "It pays to tell the candid truth when they ask for it—bye and bye they come in droves to hear it." So, they did.



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## ORIGINAL COMMUNICATIONS.

(Original communications are received with the understanding  
that they are contributed exclusively to THE LARYNGOSCOPE.)

### THE PRINCIPLES OF STUTTERING. (THERAPEUTICS.)\*

BY R. COEN, M.D., VIENNA.

Translated by M. A. Goldstein, M.D., St. Louis.

In 1872 when I published my first experimental work<sup>1</sup> on stuttering I offered the opinion as the result of observations of patients in the service of Prof. Oppolzer that the habit of stuttering should be considered as the external expression of a lowered air pressure of the lungs, or in other words, as a diminution of the faculty of breathing. This new theory being contrary to the then accepted views concerning this impediment of speech, raised considerable discussion from many quarters. No less an authority than Kussmaul termed it "one-sided." However, as the result of therapeutics founded on this principle, it was generally acknowledged and accepted as an indispensable factor in the cure of stuttering; all physicians specially interested in defects of speech applied my theory in a practical manner, using "breathing gymnastics" with favorable results in the treatment of this class of cases.

A description of the "gymnastics of breathing," as I originally suggested, appeared in *Die gesammte Sprachheilkunde*, Vol. i, pp. 177 and 233.

The methodically continued breathing gymnastics are still considered and accepted as a prominent principle in the relief of stuttering, and must be considered as a condition *sine qua non*. *How and when* these breathing exercises should be applied will be presented in the following observations:

\*Paper read by title before the Fourth Annual Meeting of the Western Ophthalmologic and Oto-Laryngologic Association.

These breathing gymnastics must be conducted with the subject in an upright position and with the chest free of clothing incumbrances.

The principal movements to be taken into consideration in these exercises are:

1. The deep continued inspiration.
2. The short expiratory movement of the breath.
3. The gradual prolonged expiration.
4. The holding of the breath.

All of these exercises should call into use a series of muscles accessory to breathing; a special consideration should be given to the diaphragm. The breathing exercises should precede all subsequent exercises of the voice and speech, as the neglect of this factor produces ineffective results in the treatment of stuttering.

The second principle in the therapeutics of stuttering may be termed the *regulation of the vocal and speech-producing organs*. After the respiratory movements have been regulated and strengthened, the voice and the organs of speech should receive special drilling. This is done by enumerating slowly the vowels and diphthongs, then gradually increasing the intensity and rapidity of their vocalization. The tone or quality of the voice used must be neither too high nor too low, a pitch being selected which is within easy range of the pupil.

The speech-producing organs are regulated by first strongly accentuating and loudly pronouncing single sounds and syllables, then words and phrases must be read in the same way, carefully observing that a natural and even tone and pitch be employed.

By these carefully applied exercises the patient gains strength and control of the voice and all disturbing muscular movements and spasms of the muscles accessory to phonation and articulation are thus gradually eased and checked.

As a third fundamental principle of our therapeutics we must enumerate the *disturbance of innovation* which must be considered as a secondary cause of stuttering. Our efforts to control this important factor in the pathology of stuttering consists of: first, elimination, as much as possible, of the spasmodic periods which occasion these disturbances of innovation. Second, diminishing the increased excitability of the nervous system and third, establishing an increased activity of the muscles of speech. To reach this end, it should be our purpose to study each individual case carefully in every detail, that is, to alternate soothing methods and suggestions with stimulation of the nervous system.

Hydro-therapeutics of the most varied kinds, electro-therapeutics and pharmaceutical preparations constitute the active measures employed in these treatments. It is incumbent upon the medical instructor to make the proper selections and direct the proper applications of these therapeutic measures in each individual case.

The fourth principle which must be taken into consideration in the treatment of stuttering is the exercise and strengthening of the will-power of the patient, for without this desideratum a permanent cure of speech-impediment can hardly be accomplished. It is a difficult matter to prescribe a definite procedure for the application of this principle, for so much depends entirely upon the physical and moral characteristics of the patient. It is here that the skill, power of observation and tact of the medical instructor is of greatest value and his physical influence is absolutely necessary to success in this work.

As a fifth and last principle to be considered in the therapeutics of stuttering may be mentioned a *general stimulation and toning up of the system*. It is a general observation that most stutterers are physically weak, anemic and nervous individuals. It is logical to conclude that a weakened condition of the system must have a deleterious influence on the vocal and speech organs, if we take into consideration that the power of this apparatus depends on the harmonious activity of many muscles and nerves which can act rhythmically and regularly only when all of the functions of the body are conducted evenly and undisturbed.

It is unnecessary to specify to the rational physician how invigoration and toning up of the system should be secured. In addition to the variations in medical therapy employed in this class of cases as tonics, sedatives, stimulants, etc., hydro-therapy, Sweedish massage and frequent, regular, fresh-air exercises are the most appropriate measures effective in this therapy.

These principles of therapeutics for the relief of stuttering are the result of an experience of twenty-five years in the treatment of speech defects; energy and persistency in their application are the secrets of success, for we deal here with a class of cases which frequently call into question every resource of the physician, to which should be added an acquired high degree of patience and determination in the practical treatment.

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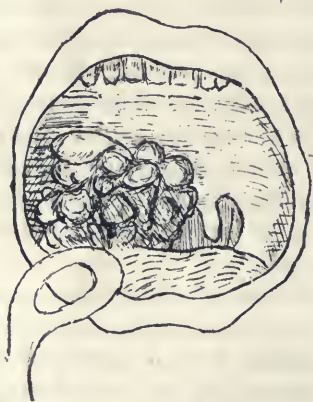


## PAPILLOMATOUS GROWTH OF THE TONSIL.

BY J. PAYSON CLARK, M.D., BOSTON.

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The following case is of interest because of the rarity of benign tumors of the tonsil, the large size which the tumor attained in this instance, and because of its apparent recurrence after removal. Joseph H., aged eight years, was brought to the Throat Clinic of the Massachusetts General Hospital in March, 1899, on account of a large growth of the right tonsil, which interfered with his talking



Growth of Tonsil.

and swallowing, but caused him no pain or other inconvenience. His family history was good, his health excellent, and he had had none of the ordinary children's diseases. The mother first noticed a growth in the right side of his throat three and a half years before. The surgeon, who was consulted at that time, removed a whitish growth, about the size and general configuration of a blackberry. The mother noticed a return in a few months and the growth increased steadily in size up to the time above mentioned. On depressing the tongue, an irregular mamillated mass was visible, occupying the site of the right tonsil and pushing the uvula well to the left. (The accompanying sketch gives roughly the appearance of the tumor as it was seen in the mouth before removal.) The left

tonsil was small and adherent and showed no evidence of previous inflammation. The patient was given primary anesthesia in a sitting posture, and the growth was removed with the cold wire snare. The hemorrhage was of no account, much less than generally occurs after an ordinary tonsillotomy. The tumor measured  $1\frac{5}{8}$  inches in length by 1 inch in width and  $\frac{7}{8}$  inch in thickness. (The photograph gives a fair idea of the appearance of the specimen after it had been in alcohol for several months.) Dr. J. H. Wright, Director of the



Pathological Laboratory of the Hospital, gave the following report of the microscopical character of the growth: "The central parts are composed of more or less dense connective tissue with vessels, etc. The peripheral lobulated parts are composed of lymphadenoid tissue and of cellular connective tissue, covered over with mucous membrane. The growth is difficult to classify, but may be called a papilloma for lack of a better name. It is, of course, not malignant." Recovery was uneventful.\* The boy has, unfortunately, been lost sight of. Several letters to the address, given by the mother, have elicited no answer. The doctor at the hospital, where the previous operation was said to have been done, writes that he finds no record of such a patient. This is unfortunate, as we are thus unable to find out the character of the first growth removed.

Bosworth<sup>1</sup> gives a résumé of twelve cases of benign tumors of the tonsil. Nine of these were classified as fibromata. Only three

\*At the site of the tumor there was no evidence whatsoever of tonsillar tissue remaining.

appear to have involved the whole tonsil. Macleod Yearsley<sup>2</sup> is of the opinion that, while true papilloma of the tonsil is uncommon, other benign growths are comparatively frequent and are often of inflammatory origin and connected with enlarged tonsils. His description of the structure of these "polypi" or "pseudo-papillomata" of the tonsil agrees very well with the microscopic character of my specimen. I cannot concur with him, however, in the statement that benign growths of the tonsil are at all frequent. I base my position in the matter on the very small number of cases reported and, to a certain extent, on my personal experience. In ten years of the study and observation of diseases of the throat in a large throat clinic, this is the only case of the sort I have ever seen. I have seen one case of a pedunculated tumor of the tonsil (probably fibroma) in an adult. This tumor was the size of a robin's egg, and either rested on the tongue or was swallowed by the patient. This patient was lost sight of before the growth had been removed. One reason for this difference of opinion is the fact that Dr. Yearsley includes among benign tumors of the tonsil "tiny polypi, growing from the follicles" in some chronically enlarged tonsils and which in many cases can only be discovered after careful search. Even should these minute polypi, on a more careful examination of excised tonsils, prove to be not uncommon and although they may resemble in microscopic structure the tumor in my case, yet clinically it is difficult to associate them. Moreover, the small growths in Dr. Yearsley's cases appeared in chronically inflamed tonsils, while in my case there had been no sore throats and no attacks of tonsillitis and the left tonsil was, to all appearances, perfectly normal. It seems quite possible that this tumor had its origin in fetal life, from some disturbance in the arrangement of the two varieties of embryonic tissue, which unite to form the tonsil. Case 1 of Yearsley's list appears to resemble my case very closely, and, as it was present from infancy, was probably of similar origin. I should be inclined to include his Case 34 also with these.

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<sup>1</sup> Bosworth: "Diseases of the Nose and Throat," 1892, Vol. 2, page 362.

<sup>2</sup> Yearsley: LARYNGOSCOPE, 1898, Vol. 5, page 79.

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## TAKING COLD.\*

BY FRANK S. MILBURY, M.D., BROOKLYN, N. Y.

Surgeon to the Bedford Hospital and Assistant to the New York Eye and Ear Infirmary.  
(Ear Department.)

Although the above title is a misnomer, I have in this article retained the name for want of a better one.

Personal experience has taught most of us the unpleasant effects of a cold, but what it is, is still an open question. The mechanism thereof is far from being clear. Notwithstanding numerous theories have been originated to explain the clinical phenomena, still it must be admitted that many of the ordinary conditions existing, following taking cold, are familiar to all men.

In the minds of most people, the word "cold" is naturally associated with a low temperature, and they confuse the idea of "taking cold" with that of absolute cold, regarding the penalty which they suffer as the result of an exposure to cold as due somehow to a direct loss of heat from the body.

This is an erroneous idea, as the body is constantly losing heat, by radiation, in large quantities, often without in any way suffering therefrom. When the demand for heat is very great, as when the temperature is below the freezing point, the supply is fully equal to the demand. A swimmer will plunge into water at a temperature  $25^{\circ}$  or  $30^{\circ}$  below that of his body, and remain immersed for hours without any ill effects. And yet the loss of heat by radiation must necessarily be very great. This loss is made up by the rapid heat production which is going on in the system, as the result, in part, of the vigorous exercise which he is compelled to keep up.

Again, in the Turkish bath, after spending some time in a hot room at a temperature of from  $150^{\circ}$  to  $180^{\circ}$  or  $190^{\circ}$ , one plunges into a cold bath, producing only refreshment and invigoration. We have here, then, instances wherein the absolute loss of heat from the body is very great, indeed, and yet the process is attended with no danger to the general system, in the way of taking cold or other penalty. We must therefore look further for some rational explanation of the method by which, and the reason why, we take cold.

Animal chemistry teaches us that bodily heat is produced by oxygenation. Not only by the oxygen taken into the blood through the lungs, but by every process of nutrition, viz.: The growth and

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\*Read before the Long Island Medical Society, New York, December 5, 1899.

development of the body and that in this process of nourishing the body heat production is going on in every organ and tissue of the organism.

This, then, is the source of animal heat, and the process is not confined to any one portion or member of the organism, but goes on everywhere, maintaining not only the lungs and the heart, and other internal organs at an equable temperature of  $98\frac{5}{8}^{\circ}$ , but maintaining the limbs at the furthest extremities even, at this same temperature.

Clinical experience teaches us that the penalty of exposure is incurred, not from subjecting the whole body to a lower temperature, but only a portion of it. If, for instance, we sit in a warm room with a draft of air striking only one part of the body, all other portions being protected, or get the feet damp and chilled, the immediate result is almost invariably, a cold. The heat production of the body is regulated by the central nervous system. Let us liken, if we may, this central nervous system which governs the whole matter of warming the body, to a chandelier, say with nine gas jets. If they are all lighted and burning with a steady flame, this constitutes health. Now, if we turn out a portion of them, three or four perhaps, we find that the others flare up with an increased intensity, which we may liken to a diseased condition here or to the inflammation caused by taking cold.

By the above illustration, we may really see that if heat production is arrested in one part, it goes out with increased intensity to another, thus causing inflammatory action in certain parts of the body, locating itself at the weakest points.

In the majority of cases, an exposure to cold results in an acute inflammation of the mucous membrane which lines the nasal passages; in other cases, it gives rise to a sore throat, swollen tonsils, bronchitis, or, again, an attack of irritable bladder, or perhaps lumbago, etc. If one is liable to rheumatic troubles, an exposure to cold will result in an attack of rheumatism, or if liable to any bronchial weakness, acute coryza, etc., the same thing will occur. A cold is not merely a mere local inflammation, because one rarely contracts a cold without feeling a more or less general disturbance. Its onset is rarely marked by a fully developed chill, but usually there are quite well marked chilly sensations, pains in the bones, lassitude, loss of appetite, a dull headache and other evidences that the whole system is affected by it. The symptoms usually set in before the local inflammation shows itself, and may last twelve to twenty-four hours before the local inflammatory process manifests itself at the point of selection.

There has been something written about ordinary colds being infectious, but so little investigation carried on that no proof, so far, is adduced.

The prevention of a cold consists practically in the proper regulation of the clothing, preferably wool underclothing all the year round and not very heavy in the winter, many advising the same weight in all temperatures; the maintenance of the skin in its best functional activity by the daily use of a cold or tepid bath; splashing cold water on the chest and rubbed dry with thorough friction, setting the skin in a glow. The proper ventilation of our living and sleeping rooms. Above all, the feet must be kept dry and warm; for certainly there is not a greater source of colds than damp, cold feet. Chest protectors and mufflers should not be worn. In civilized countries, all men dress their heads too warmly, as is evidenced in many ways.

Recognizing the fact that an exposure to cold, as above stated, results both in a local inflammatory process and a general systemic condition, our measures of treatment necessarily must be directed to both. In many instances undoubtedly, a cold can be broken up or aborted at its onset. The period during which this can be accomplished usually is from twenty-four to thirty-six hours after exposure.

The first effect of a cold, as we have already learned, is in a disturbance of the equilibrium of heat production throughout the body; this being arrested, as we understand it, in only a portion of the economy. Our first efforts, then, in aborting a cold will be to restore, as far as possible, this animal heat. In a measure, hot drinks, together with the hot foot bath, will accomplish this. By this method, heat is applied both internally and externally. It is doubtful if there is special virtue in any of the usual decoctions of hot tea prescribed, but generally each physician has his favorite. Probably there is none better than a very hot lemonade with an ounce or two of whiskey. I think the foot bath is preferable to immersing the whole body in hot water, as there is less liability to chill the skin. In addition to the diaphoresis thus produced, we possess two remedies which I believe have a noble influence on the general condition which results from taking cold. These are quinine and opium. In connection, therewith, our hot drinks and foot bath, we administer 10 to 15 grains of quinine with the physiological dose of opium. This, I think, is best given in the form of Dover's powder, 10 grains of which should be taken in connection with the quinine. When the diaphoresis has been thoroughly established, the patient should be



vigorously rubbed with a warm towel until the skin is in a glow, and then placed in bed. The action of the bath and opiates tend to produce a quiet sleep.

In connection with the above measures, it is always well to administer a laxative, and I know of nothing better than calomel in  $\frac{1}{10}$  grain doses, one given every fifteen minutes until ten are taken, less or more, as may be necessary for free action. Its action on the liver seems to have a very beneficial effect, not only on the general systemic condition which accompanies the cold, but also on the local morbid process which results from it. If these measures have been inaugurated sufficiently early and properly carried out, the result will be that the patient will waken on the following morning, after a refreshing sleep, more or less completely relieved, and even if the cold has gained a foothold, the symptoms may be greatly ameliorated by such a procedure. Usually accompanying a general systemic cold are many local lesions of the respiratory tract. Of these, the most frequent is cold in the head or coryza, then there are acute tonsillitis, acute pharyngitis or naso-pharyngitis, acute laryngitis, etc. For coryza, I have found nothing better than atropia  $\frac{1}{1000}$  grain every fifteen minutes until six doses are taken, and then every hour until the throat becomes quite dry, after which continue with the same drug every two or four hours for about twenty-four hours or longer. With this, may sometimes be associated to advantage camphor, grain  $\frac{1}{3}$ , arsenic,  $\frac{1}{240}$ , quinine, grain  $\frac{1}{2}$ , morphine, grain  $\frac{1}{60}$ , to be given three or four times daily or oftener. On the market are tablets for this purpose. A 2 per cent to 4 per cent cocaine spray, followed by a 5 per cent solution suprarenal capsule, and then an insufflation of aristol or camphor.

Camphor.

Bismuth subnitrate.....aa grs. xxx to 60

Pulv. acacia.....gr. xxx

Inhalations of menthol, antipyrine spray are also good, but there is no specific. Acute coryzas are usually caused by local lesions, as deviated septums, septal spurs, hypertrophied turbinates, etc., all of which must be attended to surgically, if necessary, to prevent further difficulties. All other local lesions must be looked after in an appropriate manner.

215 Jefferson Avenue.

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*Birmingham Medical Review*, March, 1893.

## TENOTOMY OF THE TENSOR TYMPANI MUSCLE FOR THE RELIEF OF DEAFNESS AND TINNITUS.

BY WILLIAM LINCOLN BALLENGER, M.D., CHICAGO.

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Hurtl suggested the advisability of doing the operation, but it was first performed by Weber-Liel. On account of the uncertain results that have followed the operation it is now rarely performed. We shall attempt to present the facts bearing upon the question and draw therefrom such conclusions as seem warranted by their consideration.

*Clinical Data.*—(a) Upon inspection the drumhead is found to be retracted, the handle of the malleus rotated and foreshortened, the process brevis prominent, and the cone of light broken or wanting. (b) The effect of the retraction of the malleus and drumhead is to increase the pressure on the oval window of the labyrinth, thereby causing more or less deafness and tinnitus. (c) Politzerization is followed by relief of but short duration. The traction of the tensor muscle rapidly overcomes the effects of inflation. If there were no undue traction upon the malleus or drumhead the air would remain in the tympanum several days before it would become absorbed sufficiently to produce retraction. (d) The ability to focus the ear for varying distances at will, and to select at will any individual voice from a number of voices, all of which are talking at the same time, is normal. This function is due, in part, to the action of the tensor tympani and stapedius muscles. If this power is lost, there is probably weakness of the tensor muscle, and the retraction is due to other causes.

We shall find under pathologic data that there are other conditions than shortening of the tendon of tensor muscle which may produce foreshortening of the handle of the malleus and retraction of the drumhead.

*Pathologic Data.*—There are four pathologic conditions, one or more of which usually produce retraction of the drumhead. They are as follows:

- (a) Shortening of the tendon of the tensor tympani muscle.
- (b) Stenosis of the Eustachian tube from swelling, hypertrophy, cicatricial bands, adenoids, or paralysis of the palatine muscles.

(c) Cicatricial bands may form in the tympanum and attach themselves to the malleus, drumhead, or mucosa about the margin of the drumhead and thus produce retraction.

(d) There are folds of mucous membrane and ligaments extending from the superior external wall of the tympanic cavity to the head of the malleus and to the body of the incus. These may become contracted, and through their action upon the ossicles cause the handle of the malleus to be rotated backward and inward. The drumhead may be thus retracted without the action of the tensor tympani.

*Discussion of Clinical and Pathologic Data.*—The object of the operation is to sever the tendon of the tensor tympani muscle and thereby overcome the traction upon the handle of the malleus and drumhead. The undue pressure upon the oval window will thus be relieved and the disturbances of hearing overcome. If shortening of the tensor muscle is the only cause of the retraction, the indications for operative procedure are clear and simple. Unfortunately there are other causes of retraction which may act singly or in conjunction with shortening of the tendon of the muscle. It is difficult, if not impossible, to determine whether the retraction and consequent disturbances of hearing are due to shortening of the tendon alone or to the other pathologic processes. Shortening of the tendon is quite often associated with adhesive bands which become attached to the malleus or drumhead, and with shrinkage of the ligamentous bands and folds of mucous membrane coming from the superior and outer wall of the cavum tympanum to the head of the malleus and body of the incus, all of which may jointly or separately cause rotation and retraction of the handle of the malleus. It is useless to perform tenotomy of the tensor tympani if adhesion or shrinkage of the mucous folds is also causing the retraction. If, however, the shortening of the tendon of the tensor tympani muscle is associated with stenosis of the Eustachian tube, good results may be expected from the operation. It is comparatively rare to find contraction of the tendon unassociated with contraction of the ligaments and folds of mucosa from the vault of the tympanum. If there is inability to focus the organ of hearing for varying distances, or for conflicting sounds, it is fair to infer that the retraction is not due to shortening of the tendon. It seems quite probable that one of the functions of the intrinsic muscles of the ear is to focus for varying distances and to select the sound or tones the listener desires to hear. For instance, a normal ear is approached with a watch until it is distinctly heard; the watch is gradually withdrawn and is heard at a greater distance



than when the ear was approached. If the muscles are weak they will not have the power to focus for the increased distance. A muscle thus weakened will not have the power to retract a drumhead sufficiently to produce the disturbances considered in this paper. In a room where many voices are in conversation a normal ear is able to select the one at will the listener desires to hear. If the tensor and stapedius are weakened the ear cannot select an individual voice at will, but, on the contrary, will only perceive a confusion of sounds. Such muscles are not capable of causing marked retraction of the drumhead and malleus. Hence the presence of muscle weakness is a contra-indication to the operation. I am not aware that this contra-indication has been advanced by others, and I therefore present it to the profession for consideration.

*Indications for the Operation.*—(a) Retraction of the drumhead due alone to shortening of the tendon of the tensor tympani. This is rare.

(b) If the focusing or selective power of the ear is intact, and there is retraction of the drumhead, it is more probable that the operation will be successful than if the focusing power is lost. (See paragraph on "Discussion of clinical and pathologic data.")

(c) Politzerization followed by relief of short duration is sometimes a favorable indication. If the tendon is shortened the drumhead is so forcibly retracted that the air is soon forced from the tympanum—perhaps in a few seconds or minutes. Unfortunately there are other conditions that will cause the inflation to last but a few seconds, namely, adhesive bands and shrinkage of the ligaments and mucous folds arising in the superior and outer wall of the tympanum and attached to the head of the malleus and body of the incus. It is not always easy to determine whether the retraction is thus complicated in its origin.

*Contra-Indications for the Operation.*—(a) Retraction due to adhesive bands, shrinkage of the ligaments and mucous folds from the vault of the tympanum.

(b) Inflation followed by prolonged relief. This shows the absence of muscular or other tissue-traction upon the malleus or drumhead. The air under such circumstances would not be sufficiently absorbed for several days to produce retraction.

(c) Loss of the focusing and selecting power of the ear is a sign of weakness of the tensor and stapedius muscles, hence retraction is not produced by the action of the tensor tympani, but is due to other causes.

*The Necessary Steps of the Operation.*—They are few and rather simple. A knowledge of the topography of the membrana tympanum and middle ear will enable the operator to perform it with comparative ease and safety. The essential steps are as follows:

(a) Test the hearing with the voice—whispered and audible—the watch, the accoumeter and the tuning-forks, including the Weber and Rinné experiments. The accoumeter and watch should be used to determine the focusing power of the ear.

(b) Thoroughly cleanse and asepticise the auricle and external meatus. A 1-2000 bichloride solution may be used for this purpose. The meatus should be packed with moist carbolized gauze, a pad applied over the auricle and held in position by a light bandage. This dressing should be left on for twenty-four hours. If these preliminary precautions are observed, and all instruments, sponges and hands of the surgeon are properly prepared before the operation the danger of middle-ear infection is reduced to the minimum.

(c) Having removed the preliminary dressing and irrigated the auricle and meatus with the bichloride solution, the drumhead should be incised parallel with the handle of the malleus. This may be done either anterior or posterior to it. Preference is usually given to the posterior position as it is usually more accessible.

(d) Having incised the drumhead the hearing should be tested again. The mere incision of the drumhead will often improve the hearing temporarily, and if the tests are omitted it will not be possible to determine how much of the improvement is due to the tenotomy and how much to the preliminary incision of the drumhead.

(e) Hartman's curved tenotome is perhaps the best instrument to use. It should be introduced through the incision about 3 m.m., the handle of the instrument depressed, and the tendon cut from below upward as the blade is removed.

(f) Test the hearing again and determine the amount of improvement resulting from the tenotomy. This is done by comparing the tests made after the preliminary incision and those made after completing the tenotomy.

(g) Apply a dry aseptic dressing for forty-eight hours, during which time the wound will have healed by first intention.

*Results of the Operation.*—(a) The handle of the malleus assumes a more vertical position.

- (b) The proësis brevis is less prominent.
- (c) The drumhead is less retracted.
- (d) There may be an effusion of blood into the middle ear. If so it will be absorbed within a few days or weeks.
- (e) The chordi-tympani nerve may be severed, but its function usually returns after an interval of a few weeks.

The results as affecting the function of hearing are as follows:

(f) Taking the operations as they are generally selected the results are usually negative or temporary. This is accounted for by the difficulty experienced in selecting cases which are due to uncomplicated shortening of the tendon of the tensor tympani muscle.

(g) Occasionally the hearing is rendered worse.

(h) If the case is one in which the retraction is due to contraction of the tensor tendon alone, the improvement in the hearing and tinnitus is usually marked.

The same conditions that lead to contraction of the tendon of the tensor tympani will at the same time cause contraction of the mucous folds and ligamentous tissue arising from the vault of the tympanic cavity. This fact accounts, in part, for the negative results which so often attend the operation. By bearing in mind all the facts, cases may be selected that will give very satisfactory results.

100 State Street.

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### THREE CONVENIENT FORMULÆ.\*

BY RICHARD B. FAULKNER, M.D., PITTSBURGH.

*Compound Boric Acid Pastilles.* Slightly stimulant and antiseptic. Each pastille contains: Acid benzoic,  $\frac{1}{2}$  gr.; acid boric, 1 gr.; coca, erythroxyton,  $1\frac{1}{2}$  gr.; black currant paste, q. s.

One pastille dissolved upon the back of the tongue, twenty minutes before using the voice, is useful in clearing the tone when hoarse or husky.

*Compound Aconite Pastilles.* Anodyne and anesthetic. Each pastille contains: Morphia bimeconat.,  $\frac{1}{100}$  gr.; cocaine hydrochlorate,  $\frac{1}{125}$  gr.; tinct. aconite rad.,  $\frac{1}{6}$  minim.; black currant paste, q. s.

Useful for both local and constitutional effects in acute pharyngitis, rhinitis and laryngitis.

*Compound Guaiacum Pastilles.* Powerful local alterative. Each pastille contains: Resinæ guaiacum, 2 gr.; morphia bimec.,  $\frac{1}{100}$  gr.; tinct. aconite rad., 2 min.; oil cinnamom,  $\frac{1}{14}$  min.; pulv. cinnamom, 1 gr.; black currant paste, q. s.

The cinnamon disguises absolutely the taste of the guaiac, and, at the same time, adds to the therapeutic efficiency of the pastille. Guaiac, in this combination is very pleasant, very potent and very prompt in reducing the inflammatory engorgement in tonsillitis, acute pharyngitis and in the removal of arthritic throat affection. The peculiar acid of black currants seems to enhance the efficiency of all these forms of pastilles, and the currant jelly or paste renders the above formulæ permanently plastic, soluble and pleasant.

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\*These pastilles prepared by John F. Hancock, Chemist, of Baltimore.

## **SOCIETY PROCEEDINGS.**

### **NEW YORK ACADEMY OF MEDICINE.**

#### **SECTION ON LARYNGOLOGY AND RHINOLOGY.**

Stated Meeting, December 27, 1899.

Robert C. Myles, M.D., Chairman.

#### **Repeated Intubation for Persistent Laryngeal Stenosis.**

Dr. Joseph A. Kenefick reported this case. The patient was a colored child, two years and a half old, who had come to the Manhattan Hospital last June with laryngeal diphtheria, as proved by bacteriological examination. At Willard Parker Hospital the child had been intubated, but on attempting to remove the tube the dyspnea had returned. Altogether the child had been intubated thirty times, the longest time without a recurrence of the dyspnea having been from September 28th to October 12th. After leaving the hospital the dyspnea had returned, and on October 13th until the present month he had been intubated with successively larger tubes. On December 19th, on attempting to remove the tube, it had been found out, and the nurse had then declared that the little one had been talking well for several days. The tube had been last replaced on December 3d. The speaker said that the literature of this subject was very meager, only two or three articles having appeared. The child was presented largely with the object of calling attention to the fact that although it had been intubated forty times it was still able to phonate.

Dr. W. C. Phillips remarked that a recent writer had suggested that the probable cause of this prolonged stenosis was the use of too large a tube in the first instance.

#### **Adenoma of the Nose—Operation.**

Dr. Thomas J. Harris presented a woman of thirty-two years who had come to him last summer with complete stenosis of the nose, and a history of a number of operations for the removal of polypi. Examination showed the nose to be filled with a sensitive tumor com-

pletely stenosing both sides, and bleeding readily when touched with a probe. A small portion of tissue had been removed and examined by Dr. Henry T. Brooks, who had reported the case to be one of pure adenoma, the appearance of which suggested more or less malignancy. For this reason Dr. Harris said he had employed Beckel's operation. On turning the nose over to the left side he had secured ready access to the nasal cavities, and had then discovered that the tumor extended both into ethmoidal cell and into the sphenoidal and maxillary sinuses on both sides. So far as could be determined there was no involvement of the frontal sinuses. The patient had been discharged from the hospital on the eighth day, and there had been no recurrence thus far. As the tumor had involved the septum as well as the sinuses it had been necessary to sacrifice the septum. The bleeding had been very profuse at the time, but had been controlled by the use of a gauze tampon. He had found this operation a very successful one, no large vessels being encountered, and the wound almost always healing by first intention. There had been no involvement of the fundus of the eye. Dr. Harris said that he had seen three other cases of adenoma of the nose, one occurring in a man of sixty years. The second case had been lost sight of. The third case was a pure adenoma, and had already recurred three times. He had removed it at each operation by intranasal means entirely, and it had remained free from recurrence for periods of six or eight months at a time.

### **Diabetic Ulceration of the Throat.**

Dr. W. Freudenthal read a paper on this subject. He said there existed two different forms of these ulcerations, viz.: (1) malignant, and (2) benign. The first case reported was that of a woman, forty-five years of age, who had suffered from diabetes for nine years previously. When first seen deglutition had been very painful, and examination had revealed a broad ulceration, beginning on the left side of the uvula and extending downward towards the pillars for about one inch. There was also another smaller ulcer involving the anterior part of the left tonsil and the anterior pillar. The whole picture resembled tubercular ulceration, but there were absolutely no signs of this disease present elsewhere or on microscopical examination of the secretions from the part. The lactic acid treatment had been tried, but without any benefit. When seen five weeks later, and a few days before her death from inanition, another ulcer had developed on the right side, and the first ones had become larger and deeper. The second case was that of a woman of fifty-eight years.



Inspection had shown an extensive ulceration on the left side of the tongue, extending over its edges, and corresponding to this an ulcer on the mucosa of the cheek. Here, too, lactic acid gave no result. Her physician stated that she had developed diabetes about two years previously, and he was positive from long acquaintance with her that there was not the slightest ground for believing syphilitic taint. She died about five months later. The third case was an example of benign ulceration. The patient was a man of seventy years to whom he had been called as a last resort. The man had been extremely feeble at the time, so that examination had been most difficult. There was a deep ulcer on the laryngeal surface of the epiglottis, extending down as far as one could see, and the interarytenoid space was also ulcerated. An application of orthoform had been made at once, and had been continued daily for weeks with most gratifying results, although at the time of instituting it the family had objected to any local treatment because they thought it cruel to annoy a dying man. The speaker said that to get good results from this treatment it was essential to carefully cleanse the ulcerated surface before making the application of orthoform emulsion. After the larynx had been anesthetized with cocaine he injected as much of a syringeful of his orthoform emulsion as the patient could bear. If too much were injected it would run down into the trachea and excite cough. The emulsion consisted of from 1 per cent to 10 per cent of menthol along with sweet almond oil, yolk of egg, orthoform (12 per cent) and distilled water. This man had been treated up to June 12 and had improved greatly in strength. When seen again in September there had been superficial erosions on both sides of the uvula, and the whole soft palate was rather edematous. These had disappeared in a few days and he had since been entirely well. The fourth case was that of a physician, thirty-nine years of age, with ulceration of the tonsil, which had disappeared in a few days under mild treatment. Two weeks later he had been rejected for life insurance because of diabetes. The latter had permanently disappeared in about six months. The fifth case was a woman of forty-one years, who had laryngitis and a superficial ulceration on the left arytenoid cartilage, and had been found to have diabetes. No tubercle bacilli had been found.

Dr. Freudenthal said that these ulcerations occurring in diabetics had not presented any characteristic appearance or location. He had not been able to find any literature on the subject.

An opportunity having been given for further discussion on the paper presented at the last meeting by Dr. Beaman Douglass, entitled

"A Study of the Galvano-Cautery in the Nose," Dr. Douglass closed the discussion. He said that he had approached the study of this subject from a biased standpoint because his clinical study had led him to believe that it was a dangerous procedure. Notwithstanding this his microscopical studies had compelled him to turn and say a good word for the galvano-cautery. If used on certain parts, and in the manner described in his paper, he thought the galvano-cautery would always have a useful function in nasal surgery. In selected cases it was apparently the best means at our command. The dangers had been clearly pointed out in his paper.

### **The Use of the Suprarenal Extract in Diseases of the Nose.**

Dr. W. H. Bates read this paper. He stated that in less than one minute after the application of this extract to the inflamed mucous membrane of the nose the mucous membrane would be markedly blanched. In no case had he failed to observe this blanching. The effect was usually temporary; in some cases after half an hour the parts would look as they had done before. A tolerance was not acquired by the daily use of the extract in the nose, and no secondary effect of increased congestion had been noted. The extract was not poisonous; in one case, once ounce had been swallowed without unpleasant result. He had used the extract in the treatment of diseases of the eye, ear, nose and throat for the past six years, employing it over fifteen thousand times, so that it could hardly be said to be still in the experimental stage. The aqueous solution should be prepared freshly when needed, otherwise it was likely to cause infection. Sterile solutions of the extract, when protected from daylight, had been found active after six months. He had experimented with boric acid, camphor, naphthalin, carbolic acid, glycerine, bichloride of mercury, nitrate of silver, protargol, ether, alcohol, sulphate of iron and other chemicals with the idea of preventing the extract from spoiling, but all of them had proved unsatisfactory for one reason or another. It had been observed that the addition of cocaine to the solution lessened its activity. The active principle of the suprarenal extract had been isolated, and found to be an alkaloid. This substance was more stable and apparently could be used for all the purposes in which the freshly prepared aqueous solutions had been found suitable. The extract had been found to increase the tone of all muscular tissue by direct action. The intravenous injection of the extract raised the blood pressure enormously, the peripheral vessels being strongly contracted. In the treatment of diseases of the nose and throat with this extract it should be remembered that

the remedy is simply a powerful astringent. The pain from some syphilitic and tubercular ulcers had been relieved by its astringent action. When used in conjunction with cocaine it produces a deeper anesthesia. The extract was also a valuable adjuvant to the use of cautery, such application giving more benefit and less reaction than if the extract were not employed. The healing of ulcers were promoted by it, and the time of healing very much shortened. Dr. H. L. Swain had found it possible to operate on the nose of a "bleeder" without much hemorrhage, owing to the powerful astringent action of the suprarenal extract. In controlling nasal hemorrhage, generally it was exceedingly useful. His method was to apply the extract until the parts were whitened, and then cocaine and the extract alternately until anesthesia was complete. In protracted operations when the parts became red or the patient complained of pain, the extract and cocaine were again used. The extract had no effect on the blood, neither preventing nor favoring coagulation. A case was reported in which the removal of polypi had been previously followed by severe and prolonged hemorrhage. When the extract had been used there had been absolutely no hemorrhage at the time of the operation or afterward. Through the courtesy of Dr. Moschowitz he had learned of a case of urethritis in a hemophilic in which the extract controlled hemorrhage caused by the passage of sounds. For the treatment of acute rhinitis the internal administration of the extract had been found beneficial. For this purpose a five-grain tablet placed upon the tongue in three minutes gave relief. If taken into the stomach the result was uncertain because of the action of the gastric juice. Patients suffering from hay fever had been completely relieved by taking the dried extract internally at intervals of two or four hours. Other cases of hay fever were reported from the service of Dr. Meierhof, in which the extract had been used, for the most part with benefit. Dr. S. Solis Cohen had reported that he had used this remedy in six cases of hay fever, five of whom were cured. In all forms of tonsillitis relief would be afforded by the use of the extract, even in cases of peritonsillar abscess. He had known the voice to improve almost immediately in cases of laryngitis from the internal use of the extract. His conclusions were: (1) That suprarenal extract is a powerful astringent without objectionable properties; (2) the solution should be freshly prepared, and should not be mixed with any other substance; (3) in the treatment of diseases of the nose and throat other remedies should be used also. Since the secretion of the suprarenal gland is one of the fluids necessary to life, its administration as a drug causes less disturbance than



a foreign substance. This probably explained the marked benefit from its use in all cases of congestion of mucous membrane. In its sphere of activity there was no other substance, in the opinion of the speaker, which could take its place.

Dr. H. L. Swain said that he was personally deeply grateful to Dr. Bates for having given us such a useful remedy. His interest had been awakened by the statement made by Dr. Bates in his second paper that it acted by contracting the blood vessels, by virtue of its action on the muscle fibers in their walls, and he had at once begun an enthusiastic study of its properties. He could fully confirm what the reader of the paper had said about the best results being obtained from the pure aqueous extract unmixed with other substances. The active principle was found in the medulla of the fresh gland. Professor More, of Yale, boils this for five or ten minutes in diluted acetic acid, which thus precipitates the proteid products. This rendered the preparation less likely to spoil. After this boiling the extract is filtered and kept for an indefinite time sterile and active in an hermetically sealed glass tube. The change in color of the preparation was probably due to oxidation, and not to light as formerly supposed, for, when kept thus hermetically sealed, it did not undergo this change in color, but did so on exposure to the air. The speaker said that Schäffer, of London, England, had shown that even large quantities of the suprarenal extract, if taken by the mouth, failed to raise the blood pressure. He had hoped that better results would follow its hypodermic injection, but such had not been the case in experiments conducted in the physiological laboratory at Yale. However, when injected directly into the circulation the extract did raise the blood pressure enormously. In cases of shock following severe hemorrhage, where it was desired to raise the blood pressure, saline infusion had ordinarily been employed, but it had occurred to him that if a small quantity of this extract were introduced hypodermically it might take the place of saline infusion. The negative effect of its hypodermic use had spoiled this dream. He was now working on the idea that the use of suprarenal extract in the salt solution might give a better result. Regarding the stability of the preparation he would say that the aqueous extract could be boiled for a few minutes at a time for four or five times without destroying its activity, but if this boiling were repeated more frequently the activity of the preparation would be destroyed. He had had fairly good results from the glycerinated extract. From the foregoing experiments concerning the negative use of the extract internally he had come to the conclusion that the hay fever cases reported as relieved by this

remedy had not been solely benefitted by it. In these, frequently intensely neurotic subjects one has to carefully rule out mental effects. A patient benefitted last year was not this and *vice versa*. Some very good results do, however, occur. There was some question whether the major part of the active principle had been separated in the substance called epinephrin, for certainly ten times the effect could be secured from an aqueous extract, prepared as stated, as from a corresponding dose of epinephrin.

Dr. J. E. Newcomb spoke of the theories current regarding the function of the suprarenal gland. He was inclined to think that solutions which had been allowed to stand over night acted more powerfully than when used immediately after preparation. He had not been able to get a stronger aqueous extract than fifteen grains to the drachm. He had tried Vansant's mixture of camphor water, boric acid and suprarenal extract, and had found that it kept very well. It was also convenient to have the powder in capsules, each holding five grains. Dr. Muller, of Texas, seemed to think that the extract had a distinctly anesthetic action, but personally he had never noticed such an action, and the general opinion was that it was not anesthetic, although undoubtedly it prolonged the anesthetic action of cocaine and increased the astringent effect of the latter. In acute inflammations the alternate use of cocaine and suprarenal extract seemed to allow of a more thorough absorption of the cocaine. Dr. James Ewing had suggested that there was in the body a class of substances acting similarly to the suprarenal extract, one of these being protonuclein. Dr. Newcomb said that he was now experimenting with this substance.

Dr. Beaman Douglass said that since the introduction of cocaine no remedy had been brought into rhinological practice equal to suprarenal extract, and he was very proud to think that an American, Dr. Bates, had introduced this remedy. He had found last summer that the rhinologists in Vienna knew nothing practically about the suprarenal extract except at the Anatomical Institute, where experiments were being conducted under the direction of Professor Zuckerkandl. This investigator claimed that he was finding suprarenal glands in the epididymis and along the line of the spermatic cord. He had also found that when the suprarenal glands were diseased there was a compensatory hypertrophy of what was called the supernumerary glands. Some supernumerary glands had been found, it was said, in the mediastinum of the human being. It had been discovered by the same investigator that these accessory suprarenal glands had been found along the spermatic cord in about 50 per cent

of the rats examined in connection with this research. It had next been discovered that if the spermatic cord, the testicle and the suprarenal glands were removed the rats would die within twenty-four hours of acute gastritis and acute nephritis. These results had not been published. The speaker said that he had them from the professor by word of mouth and had seen some of the experiments. It would seem from the foregoing that the object of the suprarenal gland was to control the circulation. Dr. Douglass thought that one of the most important effects of the use of suprarenal extract would be the reduction in the number of cases of cocaine poisoning. He had found that he could produce toxic effects of cocaine by using the suprarenal extract after the cocaine, but if used before the cocaine it seemed to prevent the absorption of this substance, and so tended to diminish the danger of cocaine poisoning. In his experience boric acid had proved useful as a preservative of the aqueous extract of suprarenal gland. He employed a saturated solution of boric acid for making the aqueous extract. While he was willing to admit that it seemed irrational to expect any effect from the internal use of the suprarenal extract, he felt convinced that its action, when administered in this way, was undeniable, though inexplicable. Chronic and obstinate cases of hay fever were not suitable subjects for mental suggestion, and hence the remarks of Dr. Swain on this point seemed to him strained. He had seen two very severe cases of secondary hemorrhage following his early use of the suprarenal extract, and this had led him to suspect that the extract might be responsible for it. It was possible that these were only coincidences, but the fact should be placed on record. With these two exceptions his experience had not pointed to the use of suprarenal extract as productive of secondary hemorrhage. He would also call attention to the fact that he had seen more cases of sepsis since using the aqueous extract. This might be due to the use of a poor preparation or to the action of the gland on the cells, thus making their resistance to sepsis less. He had never found any other remedy of equal benefit in hay fever, whether used internally or locally. A letter was read from a physician who had long suffered from hay fever, and who had experienced immediate and marked benefit from the insufflation of the suprarenal extract in powder.

Dr. T. P. Berens spoke of the use of the suprarenal extract in minor plastic operations on the nose. He had prepared the extract by boiling a 10 per cent solution of cocaine with one part of the dried gland in ten parts of cocaine solution. After boiling for twenty minutes he had used the preparation. In three cases, in



which this had been used the operation had been bloodless, and the anesthesia thoroughly satisfactory. He had had only one case of sepsis in connection with the use of the extract, and that had been where a boric acid solution of the suprarenal extract, twenty-four hours old, had been used. He preferred to use the extract when only three or four hours old. For use at the patient's home he preferred the dried powder snuffed up the nose.

Dr. T. R. Chambers recalled a case of extraordinarily severe hemorrhage occurring after the use of the suprarenal extract. It was a case of hypertrophic rhinitis which had lasted for hours, and had recurred five days later so severely as to almost exsanguinate the patient.

Dr. Emil Mayer said that he had noted severe hemorrhage after the use of suprarenal extract in more than one case. He had used it more particularly in connection with operations with the electro-trephine. It had been his custom to employ the aqueous extract prepared the same day, and to which had been added some boric acid. It was true that the hemorrhage had been beautifully controlled during operation, but he was positive that more cases of hemorrhage had occurred after its use than before. In all his cases the nose was invariably packed with iodoform gauze, and yet in spite of this precaution hemorrhage had taken place. It seemed to him that the moment a liquid spray of the extract was used in a case of active hemorrhage the extract would be washed out so rapidly as to be of no use. Reference was made to a case in which another physician had checked hemorrhage by the internal use of the suprarenal extract after removing laryngeal tonsils. He was glad that no one had advocated the use of suprarenal extract in the removal of adenoids, for, here the results might be disastrous.

Dr. R. C. Myles said that he had almost always used the powdered extract, and had found its action prompt and satisfactory. He had also used it in connection with cocaine. He could recall two cases of hemorrhage coming on a few hours after the use of the extract; nevertheless he considered the possibilities of this remedy very great, and such as to place it along side of cocaine for nose and throat work.

Dr. Bates, in closing the discussion, said that the addition of boric acid did not act as a preservative, and the addition of camphor disguised the odor of the extract and prevented one from determining when the extract was spoiling. Such a solution, when instilled into the eye, would cause an acute iritis. It could not be doubted that the internal use of the extract produced physiological

effects. If used hypodermically on cases of cardiac disease the effect of the remedy was immediately beneficial, and he had noted the same from the instillation of the extract into the eye. He had already reported such a case. Apparently the suprarenal extract had no effect on the normal eye. He had not had good results from the glycerinated preparation. He had been deeply interested in the cases of secondary hemorrhage reported. He had employed the suprarenal extract after adenoid operations, and had felt that it had stopped the hemorrhage.

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#### ERRATA.

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The microscopic examination of the cyst wall reported by Dr. Jonathan Wright in the proceedings of the Section of Laryngology of the New York Academy of Medicine, and which appeared in the January issue of *THE LARYNGOSCOPE* (page 32), refers to the case presented to the Section by Dr. Simpson.

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## THE LARYNGOLOGICAL SOCIETY OF LONDON.

*Fifty-Second Ordinary Meeting, November 3, 1899.*

F. DE HAVILLAND HALL, M.D., President, in the Chair.

WILLIAM HILL, M.D.,  
LAMBERT LACK, M.D., } Secretaries.

### **Microscopical Section of a Growth (Lymphangioma?) Removed from the Right Ventricular Band of a Man aged Forty—**

Shown by Dr. FURNISS POTTER.

The specimen was brought before the notice of the Society because there was some doubt as to its nature, and also because, as far as the exhibitor knew, a growth on the ventricular band was not of common occurrence.

Mr. WAGGETT said he had been asked by Dr. Furniss Potter to suggest that this case might be referred to the Morbid Growths Committee as Dr. Potter had some doubt as to whether it was lymphangioma.

The suggestion was supported by the President and adopted.

### **Case of Enlargement of the Nose—Shown by Dr. WILLIAM HILL.**

A boy æt. eight, the subject of congenital syphilis, first came under observation as an out-patient a year ago with necrosis of the pre-maxilla and ulceration of the septum. Subsequently a large sequestrum was removed under an anæsthetic. About a month ago signs of symmetrical periostitis of the nasal bones and of the nasal processes of the maxillary and frontal bones appeared. The enlargement and deformity of the nose had steadily increased; the swelling, which was very painful to touch, had now extended half way up the forehead; the usual depressions at the inner angles of the orbit had disappeared, and the cheeks were becoming puffy. There appeared to be no active destruction now going on in the septum, but there was present a condition of crusty rhinitis. The boy had been taking grey powder, but the condition was gradually getting worse, and the exhibitor asked whether any one present could suggest any local or constitutional treatment likely to arrest the morbid process; otherwise much destruction and deformity seemed to be inevitable.



**A Case of Lateral Enlargement of the Nose**—Shown by Dr. HILL.

The patient, a girl *æt.* eleven, had been under observation as a sufferer from atrophic rhinitis for more than a year. Owing, presumably, to retarded growth of the septum, the shape of the nose, with its now depressed bridge, was quite different from what it was formerly, and the patient had been gradually altering in appearance for two years. Within the last two or three months, however, a more rapid change had taken place. This consisted of a lateral widening of the nose; the nasal bones, instead of forming a bridge, have become markedly flattened out, and the nasal processes of the superior maxillæ were now widely separated and formed prominent ridges, rising above the level of the depressed and flattened nasal bones. The question asked was, could anything be done either to correct the present deformity or to arrest its progress?

**Female Aged Twenty-four with Enlargement of the Nose**—Shown by Dr. STCLAIR THOMSON.

This patient applies for relief for frontal and occipital headache and nasal obstruction. She states that her nose was always rather broad, but that lately it had increased. The bridge of the nose appears expanded on either side, the ridge of the nose is ill defined, and (apparently from distension of the skin) appears thin, and the capillary circulation in it is marked, while the alæ seems thickened.

She has *cacosmia*, but states that she cannot smell on the right side. Both nostrils are patent; there is no pus on either side, and no marked pathological change in the nose, except that the middle turbinal is enlarged and pushed inwards against the septum. A view has not been obtained of the post-nasal space.

**Male Aged Fifteen with Enlargement of Nose**—Shown by Dr. STCLAIR THOMSON.

In this case the nose is not only enlarged externally, but it is red and decidedly tender. The tenderness is slight over the lower wall of the frontal sinus, hardly perceptible over the center of both maxillary sinuses, but is increased over the nasal process of the superior maxilla, while it becomes very marked over the nasal bones and on pressure at the inner canthus of the eye on the region of the ethmoidal labyrinth.

The patient states that for twelve months the discharge from his nose has smelt badly both to himself and others.

Pus has been seen on the posterior wall of the cavum and on the floor of the right choana, as well as a slight amount in the left middle meatus.

**Nasal Case for Diagnosis**—Shown by Mr. ATWOOD THORNE.

The patient is a boy æt. twelve. Six weeks ago it was noticed that his nose was broader than usual, and since that time it has been getting gradually worse.

He has also had increasing difficulty in breathing through his nose.

There is a history of a blow three months ago, when his nose bled a good deal for an hour or two and then ceased.

He came to St. Mary's Hospital on November 3d, and was seen to have a broad nose with a depressed bridge. He could not breathe at all through either nostril. On examination both nostrils were found to be filled with hard, blood-stained masses. On clearing these away the septum was found to be thickened and ragged immediately within the columella, and beyond was a large perforation of the cartilaginous septum.

There is nothing in the boy to suggest tuberculosis.

There is nothing in the teeth or eyes to suggest hereditary syphilis, but he is the youngest child, and the mother had a miscarriage three and a half years after his birth.

Dr. WILLIAM HILL said: I think Dr. StClair Thomson's two cases are instances of perichondritis and periostitis of a more or less acute character, and we can dismiss, at any rate as a prime factor, the question of ethmoiditis, though secondarily the ethmoid region may be involved. I have had cases resembling them before in which I had thought I had excluded syphilis, but on more than one occasion they eventually turned out to be syphilitic; others were apparently of an erysipelatous nature.

In the female I cannot help thinking that there is perichondritis of the septum present owing to the thickness of septum, and if so that might explain the condition of the rest of the nose, because when you get perichondritis of the septum the inflammation often does spread to the adjacent structures; I cannot, however, throw any light on the etiology of the case.

Dr. SCANES SPICER said in the boy's case the bony and cartilaginous framework of the nose appeared quite normal and not hypertrophied, whereas the hyperplastic condition was confined to the soft tissues of the tip, dorsum and alæ, and appeared to be only of the skin and subcutaneous cellular tissue. The explanation of this seemed to him not clear in all cases. Doubtless sometimes this enlargement resulted from edema of an acute inflammation which did not completely subside. At others it was secondary to the congestion subsequent on systemic circulatory disorder. Reflex congestion from intra-nasal irritation might explain other cases; and sometimes,

as in this case, a stagnation of lymph-flow was suggested, although one could not determine the fact of blockage of lymph vessels.

Dr. F. DE HAVILLAND HALL: The first case reminds me of the case of a lady who consulted me some years ago, though in my case there was more swelling, redness and tenderness. In order to get a satisfactory examination I applied cocaine to the interior of the nostril. There was no change in the nose, and I sent her back to her medical adviser in the country. To my dismay I heard three weeks later that, a few days after I had seen her, acute mischief set up in her nose with the formation of an abscess and destruction of the bony framework, so that the bridge of the nose fell in. At the time there was very little more to be noticed than in the case we are discussing; it had been going on for some weeks, and seemed a chronic or subacute case, and I had no idea that such rapid mischief was in progress. I have been unable to satisfy myself of the final result, as the lady would never come near me again.

Sir FELIX SEMON: I have had the opportunity of seeing a good many similar cases, and in the majority I have satisfied myself that the origin of the enlargement was traumatic. It appears that often enough after a fall in early infancy, or after a blow during school-time, or a fall in the hunting-field, etc., an inflammation is set up, not only of the soft parts, but also of the perichondrium or periosteum, the acute symptoms of which (pain, obstruction, epistaxis) quickly subside. But later on it progresses very slowly and insidiously. So much is that the case that the patients often, when first asked about a history of traumatism, distinctly deny such; but on a subsequent occasion return with the statement that, on further thinking about the matter, they remember having had months or even years ago an injury to the nose. The best treatment I have always found in such cases consists in applications of ice-water externally and iodide of potassium internally.

Dr. DUNDAS GRANT: I share the diffidence which seems to usually possess the members of this Society with regard to these cases; personally I have a good deal to learn about them. With regard to the youth whose case was brought before us by Dr. StClair Thomson, I agree with Dr. Scanes Spicer that the condition is more than of vascular congestion from pressure, owing, I think, to the size of the medial turbinated bones; and I am of the opinion that a very considerable diminution will take place if the turbinated bones are removed. Very often early swelling is due to some skin disease affecting the lining of the vestibule, and I think that repeated small follicular abscesses will leave this enlargement.



With regard to the case of Dr. Hill, it is a very serious one indeed; the child seems to have been inoculated with some virulent form of suppurative disease, which has resulted in a chronic atrophic condition and cirrhotic contraction of the parts; afterwards this has resulted in the falling down of the soft tissues which bring with them the nasal bones, which do not seem to have acquired their attachment to the nasal processes of the superior maxilla, as they would do at a later period of life. I do not think it is necessary to assume a syphilitic condition in that case.

Dr. FITZGERALD POWELL: To help clear up this matter I wish to ask Dr. StClair Thomson to tell us whether any cultures have been made from the nasal secretions, especially in the case of the boy. I think we must look further afield in the majority of such cases for the cause, and if sought for it will be found in certain blood dyscrasias such as tubercle, syphilis or perhaps septic infection. In traumatism, no doubt, we may have the exciting cause, the disease remaining latent until the blow or injury has been received. We know in septic, tubercular and other forms of osteitis, a blow or other injury is often the starting-point of the disease, which not infrequently runs a rapid course. In these nose cases tubercle or syphilis will, I think, generally be found at the base of the trouble, and not septic infection.

Dr. STCLAIR THOMSON, in replying, said: I am very glad to have raised a discussion, and I hope that members having similar cases will bring them before the Society. Firstly, I would say that no cultures have been made from either of my patients. While, no doubt, traumatism is a cause in a large number of cases, I hardly think it will explain all cases. Among my private patients such cases have occurred in middle-aged ladies, who do not seem likely to be exposed to traumatism; one was over fifty years of age, who was quite sure she had had no injury. Her nose was tender, shiny and red, and for this reason she had a dislike to going into society. I had another case in consultation in which the condition was in an advanced stage; the bone and skin were distended to such an extent as to cause superficial ulceration. It was seen by a general surgeon in consultation; he could give no opinion, and regarded the case as very obscure. The post-nasal space was perfectly clear. Under potassium iodide (up to 30 grs. three times a day for six weeks), given by a Manchester surgeon on the suspicion of syphilis, no improvement took place.

**A Case of Laryngeal Growth (Anterior Commissure) in a Man with Altered Voice for over Thirty-five Years—Shown by Dr. HECTOR MACKENZIE.**

The patient is a man æt. forty-eight. His voice has never been natural since the age of ten or twelve, when it suddenly altered and became weak and hoarse. Since then the voice has remained high-pitched, weak and more or less hoarse, but sometimes worse, sometimes better. He has noticed no difference recently.

He has suffered from a cough off and on since he was a boy. For the last six or seven years he easily gets out of breath on exertion. It was on account of the cough that the patient sought advice. He was found to have a slight degree of emphysema, together with some bronchial catarrh.

On examination of the larynx there was to be seen a flat, smooth, reddish growth projecting from the epiglottis immediately above the anterior commissure, and extending above the anterior fourth of the right vocal cord. The remainder of the larynx appeared healthy.

During the three months that the patient has been under observation the growth has not altered in size or appearance. From the appearance, shape, size and situation of the growth it is probably a fibroma.

I have brought the case forward especially with regard to the question of treatment.

The growth, as far as we can observe, produces no symptoms, unless we are to suppose that it is the cause of the alteration of voice, in which case we must assume that the growth has been in existence for thirty-five years. Is this not one of those cases where the growth is best left alone, the patient being seen from time to time and surgical interference being employed only if required by increased size of the growth or by interference with the breathing.

I very much doubt whether it would be of any advantage to the patient to have a perfectly normal voice, seeing that he has reached the age of forty-eight with his present vocal peculiarities, even if it were possible to secure this by operation. What the man hopes from operation is to be cured of his shortness of breath, with which the growth has no casual relation.

The PRESIDENT: If I were the patient I would prefer to go to the grave with my voice in the present condition.

Dr. DUNDAS GRANT: Is it not worth while to have that growth removed? I think an attempt ought to be made. It is not always an easy place to get at with forceps, but the "seat of election" for operation by means of a snare. I have seen a case just like it where

it could not be removed intra-laryngeally, and the result of removal by means of thyrotomy was to restore the voice, though it is generally supposed that thyrotomy is attended with great risk of loss of voice.

Dr. SCANES SPICER: This particular growth seems an easy one to remove by snaring, since it appears free from and above the vocal cords; with no attachment below the anterior commissure, and with a constricted pedicle, removal would probably entirely cure the unpleasant hoarseness.

Mr. WAGGETT advised Dr. Mackenzie to remove it or some one else would.

Dr. HERBERT TILLEY thought that the growth might quite well be removed by intra-laryngeal forceps; he had recently thus treated a case at Golden Square Throat Hospital, and had found no difficulty with it. He felt bound to differ from Dr. Mackenzie's view of the treatment. The fact that the patient had had a bad voice for thirty years seemed to the speaker a powerful argument that it was time to endeavor to give the patient a good voice.

Dr. HECTOR MACKENZIE: I am very glad to have had the opinion of the members of the Society about this case. I had an opportunity this afternoon of seeing the man's elder brother, who confirmed what the patient had told me, that the change in the voice came on quite suddenly; he said he could remember the very place where his brother lost his voice, namely, a certain field in Oldham. This is rather difficult to explain if the cause of the alteration of voice is the presence of the tumor. Mr. Waggett says if one person does not remove the growth some one else will do it. I believe the man himself wants it done, because he thinks he will be cured of his shortness of breath. Unless I felt it was the best thing for the man I should neither do it nor advise it to be done. I quite agree with you, Mr. President, that as the man has gone about all these years—nearly forty years—with very little inconvenience resulting from the tumor, it is better to allow things to take their ordinary course.

[The President subsequently had an opportunity of re-examining Dr. Hector Mackenzie's patient, and agreed with those members who advocated the removal of the growth.]

#### **A Case of Epithelioma of the Left Ary-Epiglottic Fold in a Man Aged Sixty-five—Shown by Mr. WYATT WINGRAVE.**

The only symptom was painful deglutition of seven months' duration. Portions were removed by snare and Grant's forceps, and proved to be squamous epithelioma.



: During the last two months he had lost weight, and the growth showed signs of extension.

Mr. BUTLIN: I could not quite convince myself how far the growth extends anteriorly and posteriorly, but it seems to me from most points of view a good case for operation in that situation, though such operations are very rarely successful. The best way to do it is to open through the thyroid cartilage, turn back the two halves of the larynx to obtain a better exposure, and then deal with the growth. I have performed infra-hyoid laryngotomy for a growth not quite so large as this one under discussion; it was not a great success; there was very little room to get at it. I have removed very few growths from this situation, but such as I have done I have exposed from the front.

**Male with Unusual Indrawing of the Ale Nasi**—Shown by Mr. RICHARD LAKE.

This case was shown simply as a curiosity.

Dr. SCANES SPICER: The stenosis of nose from alar collapse is so extreme in this case that he would probably derive comfort from wearing tubes to keep nostrils open.

Mr. LAKE: The patient wears Schmidt's dilators, and derives great benefit from their use.

Dr. SCANES SPICER: He wants nothing more than small pieces of ordinary drainage-tube, which fulfil every indication and do not irritate.

Mr. WAGGETT: Mr. Stewart asked me to draw your attention to the fact that he had a similar case which was shown to the Society, which perhaps will be remembered, and that he made use of an apparatus with a not very favorable result.

Dr. STCLAIR THOMSON: The man is a neurotic subject; by manipulating the speculum, though I gave him a good deal of space and could see right through into the nose, he was still breathless. He has cardiac disease, and I have noticed that people with heart trouble, whose nasal respiration is deficient, are very neurotic.

**A Case of New Growth in the Vocal Cord, probably Cystic in Nature**—Shown by Dr. DUNDAS GRANT.

Man æt. twenty-six, omnibus conductor, was brought under my notice by Dr. Mackintosh on account of the peculiar condition of his left vocal cord, of which he has made a very faithful portrait. The cord is shaped very much as if a small lemon-seed had been let into the middle of its vibrating part. The mucous membrane over the swelling is perfectly normal in color and luster, and the mobility of the

cord is unimpaired; a few blood vessels ramifying on the surface are just visible. There has been no pain, and the only symptom has been a pronounced degree of hoarseness each winter for four years, coming on gradually, lasting for the winter, and then gradually diminishing, but not wholly going, as summer comes on. The growth appeared to me to be in the substance of the cord rather than on its surface, and its presence, no doubt, gave rise to a chronic laryngitis under unfavorable climatic conditions, this retrogressing under favorable ones. Its rounded contour suggests that it is a cyst.

I propose making an incision, or at least a puncture, in the first instance, subsequently applying an electrical or chemical cautery.

Dr. DUNDAS GRANT: This growth has increased in size since I first saw it and has become more prominent. It has been suggested by Dr. Tilley that it would be better to remove it with my own forceps than making an incision as I proposed. Having again examined the case, I shall act on the suggestion.

Dr. HERBERT TILLEY advised removal by means of an intralaryngeal forceps; the growth was freely moveable, and the treatment suggested would be much easier than the endeavor to puncture it and apply chromic acid to its interior.

Dr. STCLAIR THOMSON: Are cystic growths common? I thought I had a similar growth once, but when removed and put under the microscope it turned out to be a case of edematous fibroma.

Dr. SCANES SPICER: It also struck me as being a fibroma.

Mr. WAGGETT had operated on a case very similar in appearance to that now shown. Microscopic examination proved it to be a cyst lined with columno-squamous epithelium.

Dr. DUNDAS GRANT, in replying, said: I hope to bring this growth (be it edematous fibroma or cystic) before the Society on another occasion. My reason for thinking it cystic was that it was deeply buried in the substance of the cord, whereas fibromatous growths are usually outgrowths from the surface of the cord.

**A Case of Fibro-Papilloma of the Vocal Cord causing Hoarseness;  
Restoration of Voice after Incomplete Removal of the Growth  
—Shown by Dr. DUNDAS GRANT.**

A teacher æt. nineteen came under my care last September on account of extreme hoarseness of about two months' duration, which had come on after an attack of bronchitis and influenza. The laryngoscope revealed a pink nodule of the size of a large pin's head on the edge of the left vocal cord at the junction of the anterior and middle thirds, and a much smaller one immediately opposite it on the right cord.

By means of my laryngeal cutting-forceps I succeeded in at once effecting a somewhat incomplete removal of the growth, which Mr. Wingrave considered to be a fibro-papilloma. The voice, however, was so well restored that I have not deemed it justifiable or requisite to carry out any further surgical treatment.

**Case of Sarcoma of the Post-Nasal Space**—Shown by Mr. WAGGETT.

A young woman æt. thirty, who six months previously had begun to notice nasal obstruction and also the formation of a lump in the neck. Some pain was experienced at the back of the neck, and otorrhea on the left side had recently developed without pain.

Examination showed infiltration of the left lateral and posterior walls of the naso-pharynx with a firm growth of pinkish white color, ulcerated in parts. A large secondary growth fixed to the deep structures was present beneath the upper quarter of the left sterno-mastoid muscle. The primary growth had descended almost to the level of the palate. The nasal fossæ were not involved.

Dr. BOND: This is a very grave case, and it is evident than an operation will either sooner or later be required to relieve the girl. I think that an early attempt should be made, that the palate should be split, and the growth thoroughly examined before deciding what should be done further. It is possible the whole mass in the naso-pharynx might be snared and scraped away and the site cauterized; one cannot tell before exploration, but the patient should have the benefit of the doubt, and an attempt be made to either cure or relieve her. I should recommend a preliminary laryngotomy, and then a few days later, if the last operation was a success, an attempt should be made to remove the glands. It is within the bounds of possibility that the girl can be cured; she ought to have her chance. My own argument is that something in any case must be done.

Dr. SCANES SPICER: I have had such a case under treatment during the last two years, and which has up to now been a great success. The patient was a gentleman aged sixty-five, with almost complete nasal obstruction on left side with septal exostosis and deflection, hypertrophied inferior and middle turbinated bodies, and left nasal cavity blocked with growths. These were thoroughly removed in December, 1897, and the nose rectified. The growths were myxomatous and fibromatous, and presented no evidence of malignancy. The nose was quite clear for some months, but there was an undue amount of mucous secretions and post-nasal irritation leading to hawking. Towards the end of 1898 the passage



seemed to be narrowing again at the back, though no growth whatever was to be seen in the nose or naso-pharynx. In February, 1899, owing to increased stuffiness, the patient again sought advice and complained of a lump and tenderness externally, but deep behind ramus of lower jaw. I then suggested that Mr. Butlin should be asked to see the case, as it looked as if it was a case of malignant disease in an early stage, and that an external operation would be required. The patient was examined under an anesthetic, and a portion of swollen lump in naso-pharynx removed for examination, and found by Mr. Butlin to be sarcomatous. The patient thereupon agreed to extirpation of the growth internally and externally at two operations. Mr. Butlin operated on the internal mass after dividing soft and partly the hard palate. The patient was weak, and made but a tardy recovery from the first operation, and it was decided to defer the second, at all events for some time until he was stronger. The cervical gland mass did not appear to increase in size or to spread. Arsenic was tried, but was not tolerated. The patient went to the Riviera for some weeks, and later in the summer to Switzerland. In the Engadine he consulted Dr. Bernhard, of Samaden, who thought it necessary there and then (September, 1899) to excise the enlarged masses in the neck; pain was a prominent symptom, and the possibility of there being deep suppuration in a gland or glands had been held throughout, though it was considered probable that the neck growth was also sarcomatous. Dr. Bernhard's expert declared the tumor removed from the neck to be glands affected with chronic lymphadenitis with suppurative foci and to be free from malignancy or tubercle. The patient left the Engadine within three weeks of the operation, and now, save a slight fistulous track over clavicle, is quite well. The practical lessons to be derived from this case appears to be that it is almost impossible to form an exact and complete opinion of such a case as this from the results of a histological examination of portions removed; that post-nasal sarcomata should be removed as early and as thoroughly as possible; and that secondary enlargements in the cervical glands outside are not necessarily malignant.

Dr. DE HAVILLAND HALL: I remember one case in which a growth was mistaken for adenoids, and an operation performed, but which later was found to be a case of sarcoma.

Mr. ATWOOD THORNE: I have seen a case in hospital practice which was taken to be adenoids, and was operated on as such. The mass recurred, was found to be sarcomatous, and did not admit of removal.

Mr. WAGGETT: I only have to say that these cases appear to be much more common than the scanty literature would lead one to suppose. I have seen four cases during the present year, in two of which an erroneous diagnosis was at first made. I shall attempt to carry out the suggestions made by Dr. Spicer and Dr. Bond.

**Case of Laryngeal Perichondritis in a Man of Twenty-six, the Subject of Pulmonary Tuberculosis—Shown by Dr. S. SPICER.**

The exhibitor called attention to the confinement of the disease to the right half of the larynx, to the considerable induration over the right half of the thyroid and cricoid cartilages, to the displacement and tilting of the larynx over to the left, and to the marked edematous infiltration of the right side of larynx on laryngoscopy.

**Extra-Laryngeal (?) Malignant Growth—Shown by Mr. WAGGETT for Mr. W. R. H. STEWART.**

A woman of fifty-six, the subject of chronic throat symptoms, for eighteen months had suffered pain in the throat and left ear.

Careful examinations with the mirrors early in July had revealed no disease, the patient's note-book bearing the remark that the movements of the cords were normal. Paresis of the left vocal cord was noted in September, and early in October edema of the left arytenoid region developed, partly hiding the parietic cord. A plaque, white in color and resembling in appearance the surface of a furred tongue, was now seen on the posterior pharyngeal wall on the left side and close to the arytenoid.

Digital examination revealed the presence of a hard nodular infiltration on the left linguo-epiglottic fold.

The case was regarded as malignant and inoperable, though no glandular enlargement was detected. Consequently no microscopic investigation had been made.

The PRESIDENT: This case is one of three—either tubercular, syphilitic or malignant. Sir Felix Semon seemed in favor of syphilitic, and he put malignant last, though I should put it first.

Dr. DUNDAS GRANT: I should consider it a case of epithelioma of the larynx and pharynx.

Mr. WAGGETT said that iodide of potassium had been used in this case.

Mr. HILL: The diagnosis could readily be cleared up by snipping a bit off for examination. This, assuming the case to be operable, ought to be done at once, with a view to prompt surgical measures.

Dr. LAMBERT LACK: I should advise that the growth be not touched in any way. The diagnosis seemed quite certain, and the tumor was quite inoperable.

MEETING OF THE CHICAGO LARYNGOLOGICAL AND  
CLIMATOLOGICAL SOCIETY.

*Held December 29, 1899.*

REPORTED BY EDWIN PYNCHON, M.D.

The President, DR. E. FLETCHER INGALS, in the chair.

DR. JOHN A. ROBISON read a paper entitled:

**The Home Treatment of Consumption**, in which he arraigned the medical profession for not properly educating tubercular patient as to the importance of baths, outdoor exercise, etc., as being valuable adjuncts to the medical treatment. Without making any suggestions regarding the latter he briefly outlined a series of practical hygienic and dietetic suggestions whereby patients can be treated at home quite as well as through any change of climate, involving an expensive journey.

DR. KLEBS mentioned the value of regular outdoor exercise when possible. He thought it desirable that physicians should see patients at least once a day, and that it is better for the physician to make the visit instead of the patient so doing.

DR. CASSELBERRY: Exercise with a moderate amount of fever is permissible. In the Western mountain regions patients can exercise with an excess temperature of two degrees. When over  $101\frac{1}{2}^{\circ}$  or  $102^{\circ}$  it is better to avoid exercise. Generally speaking, the moral effect of confinement is bad. While walking is the best exercise a fair substitute is to rest for awhile outdoors in a steamer chair well bundled. For walking as an exercise it is best to prescribe a definite distance twice daily—from three blocks at first up to three miles a day, meantime practicing deep respiration. Cold baths are valuable but should be ordered at a specific temperature, ranging from  $60^{\circ}$  down to  $50^{\circ}$ , the temperature of the bath room meantime being from  $70^{\circ}$  to  $80^{\circ}$ . The patient should immerse at once, and apply vigorous rubbing for thirty seconds, and then go into a warm room and use a crash towel. Delicate patients should begin with a wet crash towel instead of the bath. Alcohol is not a tonic but is a good appetizer, hence wine and beer with meals are often beneficial. Generally speaking, light underwear is better than heavy, though it can wisely be changed with change of temperature.



DR. ROBISON, in closing, said that his paper was presented chiefly to provoke discussion. He would favor the idea of furnishing patients with a printed sheet of instructions. Forced feeding by use of stomach tube has proven beneficial, thereby showing that the stomach can digest all that is eaten, and that the trouble is wholly a loss of appetite.

The next item on the program was a general discussion on

### **The Influence of Climate in the Treatment of Laryngeal Tuberculosis.**

DR. INGAL'S did not consider the climatic treatment in this condition of as much value as in the treatment of general tuberculosis. Patients with laryngeal tuberculosis do poorly in high altitudes. Dust is not as harmful as is rarity. A mild winter is of most value, in fact a place both warm and dry as Phoenix, Ariz. The greatest danger is in painful deglutition as the patient does not eat well, and the greatest benefit comes from improvement of the general health.

DR. CASSELBERRY favored the Rocky Mountain district, particularly Colorado, where, to owing to the clearness of the atmosphere, the sun seems to give more life and heat, and where the winds are less annoying, and the air freer from dust, than in Arizona. Patients are, therefore, more out-of-doors without having to be driven out. He had only seen two cases of healed laryngeal tuberculosis, both of whom had lived in the far West. By early examinations laryngeal complications of tubercular cases will often be found before any laryngeal inconvenience is experienced. He does not think altitude is as detrimental to these cases as is the alkaline dust. Success depends upon early treatment and the bad cases are all fatal.

DR. KLEBS: Any climate that benefits pulmonary tuberculosis benefits laryngeal tuberculosis. There is no climate which has a specifically beneficial effect. The change of habits and the out-of-door life are the principal causes of benefit. The surroundings should be cheerful.

DR. KLEBS reported a case of tumor of the larynx which he regarded as a fibrous cyst.

DR. CASSELBERRY reported a similar case, seen several years ago, upon which a hasty tracheotomy had to be done. The whole cyst was removed with a hot snare, the fluid escaping during the operation so only the cyst walls were secured.

DR. FREER exhibited a post-nasal syringe tip made from a straightened hard rubber Eustachian catheter with the end stopped with sealing wax and three very small openings made near the end. With this tip, used with a fountain syringe, he had been successful in having ozena crusts removed and the treatment of atrophic rhinitis made more easy and satisfactory.

DR. PYNCHON presented the following improved instruments:

- a. A Nasal Septometer<sup>1</sup>.
- b. An Adenoid Curette<sup>2</sup>.
- c. A Nasal Trephine and Guard<sup>3</sup>.
- d. A curved Tonsillotome.
- e. Nasal saws curved on the flat.
- f. A spring tonsil forceps.
- g. A Head-band and mirror.
- h. A cautery handle.
- i. An ear extension for a powder blower.
- j. A post-nasal spray tip.
- k. Nasal splints of sheet hard rubber.
- l. An ear tip for auscultation tube.
- m. An oto-pneumatic masseur.

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<sup>1</sup> THE LARYNGOSCOPE, December, 1899.

<sup>2</sup> *Medical Monograph*, February, 1899.

<sup>3</sup> THE LARYNGOSCOPE, September, 1899.

## SAN FRANCISCO EYE, EAR, NOSE AND THROAT SURGEONS' SOCIETY.

*Meeting, December 21, 1899.*

The President, Dr. W. A. MARTIN, in the chair.

Dr. SAMPSON TRASK presented a case of laryngeal angioma, in a healthy man of twenty-eight years. The larynx was otherwise normal, and the growth situated in the most vascular region. The color is dark blue (as seen by reflected light.) The surface is lobulated; the attachment is by a broad base, clear of the vocal cords and between the arytenoids. It projects well into the lumen during full inspiration, and beyond the arytenoids (as a dark blue line) posteriorly, during phonation. There is no voice change. The growth seems slightly resistant to the probe. There are some varicose veins in the left leg dating back many years. Dr. Trask looked upon this growth as being probably a simple varix, varicose veins, or veins possibly containing a clot, and therefore a hemangioma. The cause could be ascribed to a tendency to varicosity and wrong use of the voice during congestion, and when the parts were in a relaxed condition. Angiomata within the larynx are so rare that such clinical observers as Solis Cohen of this country and Sir Morell Mckenzie (whose observations extended for many years pretty much over the civilized world) report never having seen a case of it. Franke Bosworth dismisses the subject in a single paragraph. Lennox Browne's single case (operated on in 1891) is described as "a small, round, smooth growth of pink color, situated at the anterior insertion of the vocal cords." There was hoarseness and history of recent inflammation. Grunwald, of Munich, reports a case in his "Atlas." As in Mr. Browne's case, the true nature of the growth was made out by histological examination.

In Mr. Browne's case it was a thrombosed angioma. In Dr. Grunwald's the growth sprang from a broad base in the center of the inter-arytenoid space, "the surface was a bluish-red, covered with nodules." These growths were found in men aged respectively forty and forty-eight years.

Dr. TRASK presented also a case of spontaneous hemorrhage in left lower eyelid. The patient is a seamstress, aged twenty-two, and quite anemic.



One evening before retiring, without known cause a discoloration of the left lower eyelid came on. She first noticed a slight sensation in the orbital region, which, upon examination in the mirror was seen to be puffed, but not over sensitive. The following morning the swelling had increased, and the discoloration was first discovered. Dr. Trask saw it four days later. There was then very little swelling, and no abrasion or bruised appearance, only as now, marked discoloration affecting pretty much all the sub-cellular tissue of the lower eyelid. All form of traumatism is denied. The patient is physically weak, belongs to the over-worked class. There is no history of other hemorrhages. The menstrual flow lasts a week and is of a light color. The blood coagulation time experimented with to-night shows it prolonged.

Dr. PHILIP recalled a case of a patient, aged seventy years, who had a temporal artery like a whip cord and who had a sudden hemorrhage in nearly the same place as in Dr. Trask's case. There had been no exertion or injury.

#### DISCUSSION.

Dr. COHN believed this merely a case of accidental or intentional traumatism.

Dr. OVEREND had had a somewhat similar case about ten years ago, and he had concluded to attribute it to the logical result of the chlorosis present; there was a chemotic condition of the conjunctiva also.

Dr. EATON suggested that in Dr. Trask's case there may have been a nocturnal epileptic seizure of vomiting.

In closing the discussion, Dr. TRASK said: "Spontaneous hemorrhage in the sense that it is causeless is probably a misnomer. Occurring without discoverable cause in any situation, it is a rarity in pathology. There is usually a former change in the blood, as in scorbutus or hemophilia, and who can say there is not an adequate, coöperating local cause also? Else why does it occur locally and not generally? Fuchs reports spontaneous hemorrhage within the orbit as 'an extremely rare occurrence,' and mentions whooping cough as a cause. We may exclude orbital hemorrhage by the non-involvement of the conjunctiva or sclerotic, which you have seen are clear. In regard to what has been said this evening as to possible injury during the night, I would state again that the condition began at bedtime. I shall examine the heart, blood and blood vessels."

*January Meeting.*

The President, Dr. W. A. MARTIN, in the chair.

Dr. MARTIN presented a man with an extensive ear lesion and said: "The case I show you this evening is supplementary to the one shown by Dr. Pischl at our last meeting. If you remember, in Dr. Pischl's case there was a perforation or fistulous opening in the upper and posterior wall of the auditory canal about 5 m.m. from the annulus and supposed to lead to the mastoid antrum. In the case I show you this evening, the upper and posterior wall of the canal is missing and the attic and mastoid antrum are merged in one large cavity—a Stacke operation performed by nature. The trouble commenced before Mr. R.'s remembrance. He is now twenty-two. I saw him first nearly a year since. At that time this cavity was filled with detritus analogous to cholesteatoma, but easily removed by the use of the syringe, and with a little treatment was brought to its present condition. Running across and cutting the cavity in two unequal parts—a larger upper division and a smaller lower one—is a band of tissue. This, I thought, corresponded to the annulus tympanicus, and for the sake of rendering the cavity more easy to clean, I cut it through with scissors, expecting it to retract; but it did nothing of the kind, but promptly adjusted itself and grew together again. It is extremely sensitive, as is the whole cavity. When wiping out the cavity with a cotton mop, the patient complains of an extremely unpleasant sensation, not altogether one of pain. It is also apparent from the twitching and spasms of the facial muscles that the facial nerve is close to the surface and easily irritated, although, aside from a slight drawing of the mouth, one could not say that there was any serious lesion of this nerve. The patient, so far as I have been able to test him, is absolutely deaf in this ear.

"The left ear, when I saw him, was filled with granulations and he was wearing a patent ear drum. I had him discard this for a cotton drum dipped in an antiseptic oil, and with a little treatment have destroyed the granulations, and you see quite a large portion of the m. t. has formed about the head of the hammer, which is still present. His hearing in this ear is, without artificial drum, watch on contact (normal one meter), and low conversational voice at one meter; with the drum in place, watch is heard at twenty-five centimeters and low conversational voice at four meters, so that he can follow his occupation, that of clerk in a lawyer's office, with comfort."

The annual election of officers being in order, was held, and resulted as follows: President, Dr. Henry L. Wagner; first vice-president, Dr. F. B. Eaton; second vice-president, Dr. George W. Merritt; secretary, Dr. R. L. Cox; treasurer, Dr. Kaspar Pischl.

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## THE WESTERN OPHTHALMOLOGIC AND OTO-LARYNGO- LOGIC ASSOCIATION.

The attention of our American readers, and particularly those in the Western States, is specially directed to the next meeting of this association, which will occur in St. Louis, April 5th, 6th and 7th.

The programme and arrangement committees are moving actively in the interests of the proposed assembly, and already assurances have been received from a sufficient number to warrant the belief that there will be a larger attendance and a more uniformly high class of papers presented than at any previous gathering.

The association is in a flourishing condition, its membership has steadily increased, and it now numbers upon its rolls many of the most representative ophthalmologists, otologists and laryngologists of the Central and Western states.



The central location of St. Louis makes attendance easier to a larger body of physicians interested in ophthalmology and otolaryngology than would be possible if the meeting place was in a city less conveniently situated. The sessions will be held in the ordinary of the Planters Hotel.

A museum of specimens is projected, to which all members will be invited to contribute. In addition there will be a therapeutic and instrumental exhibit that cannot but prove valuable to those who practice where they have not the opportunity to examine new instruments and appliances before purchasing.

In a later issue we will publish the scientific and entertainment programme.

F. C. E.

### AUTOSCOPY.

In the year 1895 Alfred Kirstein, of Berlin, opened up a new way for the examination and treatment of the larynx and trachea by teaching that the interior of the air-passages may be viewed directly, without the aid of the mirror or other optical appliance, thus deviating from tradition and the methods in vogue.

The results of his observations and the facts developed were outlined in a series of articles entitled "Autoscopy of the Air-Passages," published during the year 1895.

In 1896 the author issued in book form, under the title "Autoscopy of the Larynx and Trachea," a detailed description of the new method and the indications for its employment.

While this method will not replace the old laryngoscopic methods, Dr. Kirstein has, nevertheless, made an important addition to the technical resources of the laryngologist.

We wish, however, to call attention to the fact that the name which the author has chosen to apply to this method is a misnomer and one likely to be misinterpreted.

The word autoscopy could scarcely have come from any other source than the two Greek words *autos* and *skopecin*, which, taken together, mean a self-examination. This is clearly not the sense in which it is here used.

In coining a word special attention should be directed toward making it distinctive, and such that its etymology will furnish a key to its meaning.

In Vol. I. International Clinics, the author has an interesting monograph under the title "Autoscopy of the Larynx and Trachea, and its Relations to Esophagoscopy," a review of which will be found in our Abstract Department.

R. M. R.

## ABSTRACTS AND BIBLIOGRAPHY.

Arranged and Edited by

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with the collaboration of the

EDITORIAL STAFF.

It is our purpose to furnish in this Department a complete and reliable review of the world's current literature of Rhinology, Laryngology and Otology.

Authors noting an omission of their papers will confer a favor by informing the Editor.

### I. NOSE.

**Regional Minor Surgery—(The Ear and Nose)**—GEO. G. VAN SCHAICK—*Internat. Journ. Surg.*, November, 1899.

The article is written for the general surgeon. When there is considerable comminution in nasal fracture, the author advises that a long sterilized pin be driven transversely through the nose, under the broken bones, and supported at the proper distance by means of small rolls of gauze bandage placed upon the closed eyelids.

EATON.

**Some Abuses in Nasal Surgery**—W. S. LATON. Minneapolis, Minn., *N. C. Medical Journal*, October 20, 1899.

A plea for greater conservatism in nasal surgery and more care in its application. In one case reported, the patient's turbinates had been repeatedly cauterized when the cause was really a deformed septum. The remaining cases described illustrate the advantages of surgery in rhinology.

SCHEPPEGRELL.

**The Veil as a Cause of Nasal Erythema**—O. ROSENBACH—*Berl. Klin. Wochenschr.*, October 9, 1899.

The author has found that in a number of cases the ordinary face veil worn by ladies has been the cause of a hyperemia of the skin of the nose. This is especially apt to be the case in cold and windy weather. The tighter the veil is drawn the worse matters are. The condition is particularly observable in those possessing a delicate pink and white complexion.

If the cause is discovered in time and the use of the veil abandoned, the redness disappears, but if the minute vessels of the skin are well dilated, the condition is generally more or less permanent.

The author advises that if the patient cannot avoid exposure to cold winds, etc., that instead of wearing a veil the person should first rub a little vaseline or some other unguent over the exposed nose and then dust on powdered starch or any harmless face powder.

VITTUM.

**Coryza**—MAX NASSANER—*The Penn. Med. Journ.*, October, 1899.

To abort an incipient attack of coryza, a weak, pale, pink solution of potassium permanganate is recommended. The nostrils are to be well rinsed with the solution. After drying the nostrils, a small plug of cotton is inserted far back in each side of the nose, and the cavities are then filled with the solution, the head being held back. The plug saturated with the solution is left in position for an hour, when it is to be expelled by blowing the nose.

E. D. LEDERMAN.

**Hay Fever and Acute Coryza**—B. J. WETHERBY, Wilkes-Barre—*Medical Council*, November, 1899.

The author calls attention to a new and very serviceable application of heroin, namely, its use in the treatment of hay fever and coryza. In these conditions he recommends the following formula:

Heroin.....	1 grain
Atropiæ Sulph.....	$\frac{1}{25}$ grain
Caffeine Cit.....	15 grains
Salophen.....	75 grains

M. Ft. Caps No. xv.

In the author's own case of hay fever one capsule was sufficient to relieve the sneezing and the profuse nasal secretion, and four capsules a day kept him perfectly comfortable. Since this favorable experience Dr. Wetherby has prescribed the same treatment in a number of cases of coryza and hay fever with equally positive results in every instance. He believes that by its use we can promise immediate relief to the large army of coryza patients so common at this season of atmospheric changes.

**A Peculiar Case of Nasal Obstruction**—LIM BOON KENG, Singapore—*Scottish Med. and Surg. Journ.*, October, 1899.

This somewhat unique case is of interest. While the patient was bathing a leech slipped into one of his nostrils; he had been unable to dislodge it, but found that when some fresh water was applied to the nostril, the leech elongated itself and moved about. When seen by Dr. Keng three months had elapsed since the leech had entered, and the patient had all the appearance of a man who had lost a quantity of blood. A pair of artery forceps was applied to the leech's tail and a few drops of chloroform were inhaled which caused the animal to drop out.

A. LOGAN TURNER.

**Muco-Fibrous Polypus**—*Proceedings of Toronto Clinical Society*  
—D. J. GIBB WISHART—*Canadian Practitioner and Review*,  
December, 1899.

The patient was a boy eight years of age. Numerous previous attempts had been made to clear the nose of polypi before the child was entered in the Children's Hospital. Under chloroform and through the left anterior naris a muco-fibrous polypus three and one-



half inches in length was removed with the cold wire snare. The polyp was attached to the middle turbinated bone, in the usual situation, and no others were discovered, although the boy was kept under observation for four months. The boy's face is peculiar in appearance owing to a lack of development in the ethmoid bone and a distinct sinking in the region of the frontal sinus. The palate is highly arched and the incisor teeth overlap at their inner inferior angles. There is double dislocation of the lens. Hereditary syphilis was suspected, but not definitely marked. GIBB WISHART.

**Essential Anosmia**—REUTER, Bad Ems—*Archiv. für Laryngologie*, Band ix, Heft 3, 1899.

The author divides anosmia into three classes:

1. That accompanying total extirpation of genuine nasal polypi.
2. That accompanying chronic ethmoiditis.
3. That accompanying ozena,

Under the first heading he refers to those cases where anosmia remains strongly marked in spite of the fact that the olfactory fissure has been cleared out as thoroughly as possible. In these cases where the fissure is to all appearances perfectly open and pervious, he thinks that the anosmia is perhaps due to the fact that it is impossible to remove every vestige of the growth when situated very high up, and hence the passage may still be somewhat obstructed although it does not appear to be so. One observation made by the author deserves notice. He thinks he has observed in his cases that whenever the anosmia persists after a thorough removal of polypi in that case the polypi will certainly recur. The reverse also holds true. This will be a valuable sign for the practitioner if further observation proves it true.

In the case of anosmia accompanying ethmoiditis it should be remembered that the sensitive epithelium extends only over the superior turbinals and the neighboring portion of the septum, so that the anterior ethmoidal cells alone are affected that simply to clear the way to the olfactory region would restore the sense of smell, and this seems to be the fact according to clinical observation.

The most frequent form of essential anosmia seems to be that which accompanies ozena. In many cases it is found that if the nostril be very thoroughly cleared of crusts and the way to the olfactory fissure laid open, the sense of smell will return. On the other hand in advanced cases of ozena the complete loss of smell makes it probable that the tissues of the olfactory region have shared in the atrophic changes, and the resulting organic condition is permanent.

VITTUM.

**The Ethmoid Bone and Nasal Catarrh**—ARTHUR F. SUMNER—*Journ. of Med. et Science*, November, 1899.

Attention is called to the anatomy of the ethmoid bone in a curtailed manner. The opening of the cells and the cells themselves are so small that in an acute inflammation of this region, drainage is

imperfectly accomplished. This state of affairs accounts for the frontal headaches and fullness of the nose in an ordinary cold.

In chronic purulent conditions, the flow of pus is frequently an aid to diagnosis. In disease of the anterior cells, surgical treatment should be applied, if antiseptic measures are not successful. The author does not believe that surgery offers much relief where chronic suppurative disease of the posterior cells exist. He thinks that in the future, electrolysis will be the means of resolving hyperplasias of the middle turbinal in a safe and efficient manner.

LEDERMAN.

**The Purulent Diseases of the Nasal Cavities and their Importance to the General Practitioner—JULIUS VEIS—*Weiner Klin.***

*Rundschau*, Skptember 3, and September 10, 1899.

This paper is a very good résumé of the symptoms, course, diagnosis, etc., of the diseases under consideration. Nothing new is given, and the paper professes to be only a hint to the general practitioner. The author advises that in all cases recourse be had to the endonasal operations, where this is possible.

VITTUM.

**A Case of Apparent Congenital Eburnification of the Superior Maxillary Bone—Operation and Cure—CARL SEILER—*Internat.***

*Journ. Surg.*, November, 1899.

An unmarried woman, aged twenty-three, on examination was found to have complete stenosis of both nasal cavities, both anteriorly and posteriorly, caused by a bony growth. The left antrum was completely obliterated, and the left eye protruded. The patient had never breathed through the nose nor had any sense of smell. The author concluded that probably a congenital bony growth was the cause, and operated. An incision was made, commencing at the inner canthus of the left eye, down the side of the nose, around the *ali nasi*, across the lip to the columnar cartilage, and then down through the middle of the upper lip. The whole side of the face was laid bare, the flap being pinned to the ear. On exploring, bony protuberances seemed to be scattered all over the upper portion of the widespread and irregular growth which invaded and obliterated the antrum and pressed upward toward the lower orbital plate. With chisel and hammer the author chiselled away the growth to form a new antrum, a very difficult task, as was also the making of a passage through the anterior nasal cavities, still preserving the natural contour of the nose. Nasal respiration was established. The external wound healed by first intention and the patient has been able to breathe continuously through her nose, and has even acquired the sense of smell to a considerable degree. The scar on the face is barely visible, and the disfigurement of the growth has disappeared.

EATON.

## II. MOUTH AND NASO-PHARYNX.

### Epidermolysis Bullosa Hereditaria of the Mucous Membrane—

GUSTAV SPIESS—*Archiv. für Laryngologie*, Band ix, Heft 3, 1899.

After a description of this rare disease as it occurs on the skin, the author relates a case of his own which he cannot regard as anything else than this same disease affecting chiefly the mucous membranes of the mouth and throat. In this situation also the trouble is characterized by the appearance of blebs or vesicles following the slightest trauma. For instance, in making a laryngological examination he was unable to hold the tip of the tongue between the fingers for fear of giving rise to the condition in question. The swallowing of rough or "scratchy" food would almost inevitably bring on an attack. Often these blisters formed in such numbers and of such a size as to close the esophagus and make swallowing impossible until such time as the loosened epithelial layer was thrown off and the liquid contents of the bleb discharged. The fluid was usually clear, although sometimes bloody. After the desquamation had taken place the underlying area was tender and very painful.

All treatment was unfortunately without avail.

VITTM.

### Of What Value is Gargling?—*Mary. Med. Journ.*, September, 99.

Saenger gives the results of a series of experiments. He touches the tonsils of patients with methylene blue and then made them gargle with water, which always came away clear, showing that the water did not reach the faucial space—rarely, in exceptional cases, are the tonsils and the pharyngeal wells reached. It is therefore more rational to paint these parts with medication. LEDERMAN.

### Recurrence of the Tonsil after Operation—F. E. HOPKINS—*N. Y.*

*Med. Journal*, December 2, 1899.

Various opinions by different observers are incorporated in this paper. The author is of the opinion that if amygdalotomy is properly performed, the recurrence of the gland is not likely to occur. However there is an exception to all rules, as illustrated in the case under his immediate observation.

The operation was performed upon a girl thirteen years of age; some adenoids were removed also under ether at the same time. The tonsils were thoroughly removed, pressure being made from the outside. An examination three weeks later justified such an expression. In four months the patient was seen during an attack of acute inflammation of the tonsillar tissue, and the left gland was found considerably enlarged. Two months after the tonsil was again removed, and under the microscope proved to be simple hypertrophy.

A tuberculous or specific dyerasia and an acute inflammation of the stump may be considered causes of recurrence.

LEDERMAN.



**Adenoids Neglected and Some of the Results—M. H. GARTEN—***West. Med. Rev.*, November, 1899.

Picturing the far-reaching evils resulting from neglected adenoids the duty of the family physician to look out for, and detect the condition is strongly urged. EATON.

**A Case of Complete Occlusion of the Posterior Nares—E. D.**

CAPPS, Forth Worth, Texas—October, 1899.

Digital examination of the patent, a woman of thirty years, showed firm adhesions between the soft palate and the post-pharyngeal wall. Under complete ether anesthesia, a steel sound was introduced into the pharynx, which was found to be almost occluded by a bony mass, the hard palate extending upward and attached firmly to the base of the occipital. The obstructing mass was cleared with a chisel and curette, the adhesions of the soft palate broke up by means of the finger and steel sound, and the passage packed with iodoform gauze. The result was satisfactory.

The author believes the case to be of congenital origin, and that the adhesions of the velum resulted from the presence of adenoids which had atrophied. SCHEPPEGRELL.

**Innocently Acquired Syphilitic Infection of the Throat—F. R.**PACKARD—*Journ. Eye, Ear and Throat Dis.*, October, 1899.

A woman, aged forty, unmarried and a professional nurse complained of sore throat. Objectively there was a large, irregular superficial ulceration with a grayish slough on the surface of the right tonsil involving the right anterior faucial fold. The cervical glands on the right side were very much enlarged. The history was that a year before she had had scarlet fever from which she entirely recovered, save some soreness of the throat. One month after her attack she attended a confinement case of a woman who had mucous patches all around the vulva and anus, and also in her mouth, but of this she knew nothing until she had attended the case for a week or two, during which time she had been frequently kissed by the patient. Then a sore developed on her upper lip. The doctor in attendance then told her the patient had syphilis, and that the sore on her lip resembled a chancre. The points of interest are:

1. The apparently genuine history of infection.
2. The difficulty of making an early diagnosis.
3. The absence of all symptoms of syphilis except those presented on the lips and tonsil.

The literature of the subject is given and it is maintained that syphilis of the mouth and throat is very commonly of innocent origin, and that the difficulty of making a diagnosis of syphilis of the tonsil is sometimes very great. EATON.

**Treatment of Naso-Pharyngeal Adenoids**—L. J. LAUTENBACH—  
*Journ. Am. Med. Assn.*, November 18, 1899.

The author condemns the use of general anesthetics in the removal of adenoids as both dangerous and unnecessary.

He uses no other instrument than the finger nail, or, when that is out of repair, an artificial finger nail which he has devised.

In the discussion of the paper, Theison, Mayer, Stuckey, Keller, Quinlan and Rogers strongly condemn the positions taken by the author.  
A. H. ANDREWS.

**Hypertrophies in the Tonsillar Ring**—DANIEL B. HARDENBERGH  
—*Medical Record*, Nov. 25, 1899.

Attention is called to the "adenoid ring" of Waldeyer. The tendency toward the disappearance of the tonsillar tissue as life progresses strengthens the contention of their rudimentary and obsolete nature.

Hypertrophies of the faucial tonsil have a greater tendency to continue into adult life, and the condition occurs when new connective tissue takes the place of the lymphoid, and is recognized as a hyperplastic form.

The various exciting causes are mentioned. The hereditary element plays an important role. The importance of these hypertrophies on the organs of hearing is dwelt upon. The author thinks that the overgrowth in the post nasal space should be removed without a general anesthetic. Occurrence does occur in a less proportion of cases.  
LEDERMAN.

**Observations on Adenoids and Enlarged Tonsils and Their Removal**—D. J. GIBB WISHART—*Montreal Medical Journal*,  
October, 1899.

Data are gathered from one hundred and three operative cases seen in the author's clinic in the Victoria Hospital for Sick Children during a period of four years—and the cases are classified.

The author prefers to diagnose the presence of adenoids through the inferior meatus of the nose by inspection. Emphasis is laid upon the necessity for gentleness in all manipulations of the nose and throat in children, with a view to accurate diagnosis and successful treatment.

With regard to treatment, operative procedure is advocated in properly selected cases. This must be done under an anesthetic, which must produce profound narcosis. Chloroform was used as a rule, but nitrous oxide with oxygen is advocated where one gland alone is enlarged, or where the operation is likely to be speedily performed.

The patient is placed in the prone position with the head dropped over the edge of the table, and for adenoids the forefinger of the left hand is kept in the naso-pharynx, to guide the curette. The author has used extract of supra-nasal capsule to lessen the blood flow, but without satisfactory results. No untoward results of operation were needed.  
GIBB WISHART.

**Removal of Tonsil and Adenoids, followed by Fatal Result—J. A.**STUCKY—*Annal Otol., Rhinol. and Larynx.*, May, 1899.

Case of a "bleeder," aged fifteen, reduced in health from "grippe," and presenting an extra large tonsil already affected with peri-tonsillar abscess, which was discharging when patient presented. No acute symptoms. No unusual bleeding at time of operation, but within two hours profuse secondary hemorrhage occurred which yielded to treatment, leaving the patient in such a weakened condition that in spite of whiskey, strychnine, digitalis and transfusion death occurred nine hours after the operation, and seven hours after the secondary hemorrhage.

F. C. E.

**Two Cases of Cut Throat with Opening of the Air-passage—**EDWARD R. C. EARLE—*Lancet*, October 28, 1899.

It is still an unsettled question whether it is desirable in all cases of cut throat to completely close the opening into the air-passage. It was formerly taught that in no case should the wound be quite closed, for edema of the larynx was very likely to supervene and prove fatal before help could be obtained. Since the introduction of the use of antiseptics the tendency has been towards immediate closure of the wound of the larynx, for it has been found that the diminution of sepsis has resulted in a great decrease in the number of cases in which edema of the larynx has occurred, and the teaching of the present day is generally that the wound may be completely closed at once with impunity. This is only true of cases which are seen a short time after the infliction of the wound, and in which no laryngeal inflammation has commenced. When, however, many hours have intervened between the injury and the operation, it is advisable to leave the aperture in part unclosed, so that asphyxia cannot supervene, and this is especially advisable, when help cannot be speedily obtained should suffocation threaten. Dr. Earle's two cases are interesting examples of severe cut throat, and show how comparatively slight is the general disturbance in such cases if no large vessels have been severed. They are described in detail. The results in both these cases were eminently satisfactory, though they had been subjected to the most unfavorable conditions. Both patients arrived at the hospital considerably over twelve hours after the infliction of the injuries, after having travelled in an uncovered cart, exposed to the mid-day rays of a tropical sun, a distance of twelve and thirteen miles respectively. In the latter case the wound had not even been covered during all that time. Luckily, no large arteries had been severed. In neither case were there any lung complications. This fact was no doubt due to the warm temperature of the air, for the thermometer must have registered from 110° to 120° in the sun. In both cases recovery was complete, the acts of speech and deglutition being unimpaired.

STCLAIR THOMSON.



## III. ACCESSORY SINUSES.

**Chronic Empyema of the Antrum of Highmore—Operation by the Caldwell-Luc Method**—A. W. DE ROALDES—*N. Y. Med. Journ.*, January 6, 1900.

Five cases operated upon by this method are reported. Some comments upon the technique are made by the author. In making the buccal incision the aim has always been to obtain an inferior muco-periosteal flap of sufficient width to permit later on of easy suturing in order to obtain union by first intention. This must be accomplished to avoid possible secondary infection of the sinus from the oval cavity. The author, however, does not fear such infection, even though a fistulous opening through the alveolar process exists, providing the opening is not too extensive.

It was advisable to bring the incision nearer the frænum than formerly advocated. The bone opening should be more ovoid in character and nearer to the nasal wall of the antrum, so that it will be easier to establish the artificial hiatus through the nasal wall. Thorough curetting of the antral cavity must be carried out. Furthermore a partial turbinectomy of the anterior end of the inferior turbinal should be performed with biting forceps. This portion of the operation can be postponed until the latter part of the technique, in order to avoid delay with the hemorrhage, which may be checked with firm gauze packing (Dr. Luc does not advocate the resection of the turbinal.) A good size nasal opening is recommended. Gauze drainage through the nasal hiatus is carried out. Good results are reported in from four to six weeks.

LEDERMAN.

**The Operative Treatment of Frontal and Maxillary Sinusitis**—F. W. HINKEL—*N. Y. Med. Jour.*, December 23, 1899.

A number of cases are reported upon whom surgical treatment was practiced. In one frontal case the antrum disease marked the former. The external operation was performed with immediate closure of the external wound after a drain of iodoform gauze had been carried through the infundibulum, which had previously been enlarged by the curette. A good result was obtained.

In three cases of antral disease the Luc operation was carried out, with pleasant results in two cases. According to the author's opinion, the suturing of the gingivo-labial incision is not necessary, as the wound coapts readily without stitches. The wound need not be disturbed if the patient is fed upon soft food, and eating is carried on with the use of the other side of the mouth. The patient must avoid blowing the nose violently, so as not to disturb the wound.

LEDERMAN.

**Confined Suppuration of the Frontal Sinus with Spontaneous Rupture—Report of Case—KYLE—*N. Y. Med. Jour.*, Dec. 16, '99.**

These symptoms occurred in a female sixty years of age. She experienced a sensation of fullness in the left side of the nose, without pain. The nasal secretion varied from a thin watery to a thick tenacious discharge. There was some soreness at the inner angle of the eye and a swelling between the eyes. About five months after the initial symptoms, marked swelling in the limbs was noticed, together with an aggravation of the other symptoms. The tissue on the forehead was so swollen that it hung down over the supra-orbital ridges. In the median line, about an inch above the supra-orbital ridge, there was a marked projection with distinct redness. Through this site the abscess discharged after a slight crust formation was removed. No distinctive pathological process could be discovered in the nose, except an edematous condition of the mucous membrane of the left side, which was readily reduced with an eight per cent cocaine solution. The probe passed through the external sinus into the nasal cavity without much pressure. Drainage was good, and with the use of antiseptic solutions the wound healed in two months.

LEDERMAN.

**IV. LARYNX AND TRACHEA.**

**Another Case of Functional Expiratory Spasm of the Glottis—**

PROF. V. UCHERMANN—Christiana—*Archiv für Laryngologie*, Band ix, Heft 3.

The symptom was a sound somewhat resembling "hawking," which occurred every five or six seconds (at the end of each expiration) during speech. The sound was absent if the man was not speaking.

The mirror showed that the false chords were somewhat injected. The true chords normal. At the end of each expiration the chords approach each other, but the processus vocales do not quite touch. Painting with 20% solution of Cocaine does not alter the condition. The author remarks, on commenting on the case, that we have here a sort of abortive cough. It is, however, distinguished from Gottstein's nervous cough by the fact that while the latter ceases during speech, in this case it only occurs at that time. The case is apparently of central or bulbar origin. This is made apparent by the regularity of the spasm. It is not affected by cocaine, therefore not depending on reflex of the mucous membrane. It is brought about by speaking, there is, therefore, some cerebral influence. It is a hyperaesthesia or morbid irritability of the expiratory respiration center, depending probably on some local vascular trouble.

VITTM.

**The Subcerebral Center of Phonation—A. ONODI—*Archiv. für Laryngologie*, Band ix, Heft 3, 1899.**

After making a series of experiments on dogs, the results of which have been published elsewhere, the author came to the conclusion that a phonation center exists in the floor of the fourth ventricle, between the origin of the vagus and the posterior corpora quadrigemina.

Following up this idea he requested the conductors of the clinic to save up for him the bodies of those children who had undergone craniotomy and yet had phonated during life, as well as those monstrosities who had phonated.

As a result of this request he received in the course of two years, two children who had undergone craniotomy and two monstrosities who had phonated. A careful examination of these cases showed that, in each of the children on whom craniotomy had been performed the region in question was intact. In the two monstrosities, while most extensive cerebral and cerebellar maldevelopment was present, yet the region in question was developed in both instances.

Two reports are also referred to where observations were made during life and a careful examination of the nervous centers made after death. These cases of Darvas and Prof. Kehrner were a monstrosity and a perforated child. The results of both bear out the views of the author.

The author makes the following statements:

1. Destruction of the cortical phonation centers has no influence on phonation.
2. The destruction of the great ganglia of the brain, the thalamus, the corpus striatum and the nucleus lentiformis does not influence phonation.
3. The total division of the brain in the plane of the anterior corpora quadrigemina does not destroy phonation.
4. The lesions of the cerebellum have no influence on phonation.
5. The total division of the medulla oblongata above the origin of the vagus arrests phonation at once and permits only respiration.

As a result of his experiments on animals and his investigations on monstrosities and perforated children, the author sets up the following thesis:

"That the subcerebral phonation center which we have demonstrated to exist in the dog also exists in the human being, and further, it is similarly situated between the posterior corpora quadrigemina and the origin of the vagus."

VITTUM.

#### **A Case in which a small Silver Coin was lodged in the Larynx for Four Weeks; Removal with Forceps under Cocaine—**

WALKER DOWNIE—*Lancet*, October 14, 1899.

It is somewhat surprising that the coin in the following case did not cause more dyspnea, obstructing as it did the rima glottidis to so great an extent. Had it been allowed to remain much longer in the larynx, it would have led to ulceration, which might have given rise on healing to such contraction as to have interfered permanently with speech. From a consideration of 1,674 cases of foreign bodies in the air passages collected from various sources, Bosworth\* has shown that 28.6 per cent of the patients when no operation was performed died, and 25 per cent died after operation.

\* "Diseases of the Nose and Throat," third edition, p. 729.



A man, aged forty-six years, was seen by the author at the Western Infirmary, Glasgow, on September 8, 1899. The patient complained of loss of voice and difficulty in breathing, particularly on exertion, of four weeks' duration. The story which he gave was that on August 12th he was intoxicated. In the early part of that day, while sober, his voice was clear and he had no difficulty in breathing, but on waking up on Sunday morning he could only speak in hoarse whispers, he had considerable pain over the larynx, his respirations were noisy, and he felt as if his windpipe was closing. These symptoms were supposed to be due to a "bad cold," and the use of many homely remedies was accordingly resorted to, without, however, giving him any relief. His nephew, who had been with him on the previous night, told him that he had swallowed a "threepenny-bit," but the patient had no recollection of the alleged occurrence, and maintained that he had done nothing of the sort. (This latter statement was not made until after the coin had been removed.)

On laryngoscopic examination the parts were found to be deeply injected. Both ventricular bands were swollen and inflamed. The greater part of the glottis was seen to be occupied by a flat body thickly covered with muco-pus. The body lay on the vocal cords so that their extremities, anteriorly and posteriorly, alone could be seen. This foreign body was then gently mopped over with a swab of cotton-wool on a laryngeal probe, after which its nature was recognized without difficulty. Although it had lain in the larynx for four weeks, the metal for the most part was bright, and the raised edge and the figure in the center of the threepenny-piece were readily seen in the mirror. The interior of the larynx was anesthetized with cocaine, and the coin was at once removed by means of Mackenzie's rectangular laryngeal forceps opening antero-posteriorly. Flat foreign bodies fixed in the position which this one occupied are most readily extracted by forceps of Wolfenden's pattern, but on this occasion none were at hand. After the removal of the coin the upper surface of both vocal cords was seen to be eroded. This erosion quickly healed under the influence of soothing inhalations, and within one week from the date of the removal of the threepenny-piece the patient had fully recovered his voice, and all symptoms of the laryngeal distress complained of while the coin was lodged within the larynx had disappeared.

STCLAIR THOMSON.

#### **The Theory of Abdominal Breathing in Singing—P. HELLAT—**

St. Petersburg—*Archiv für Laryngologie, Band ix, Heft 3.*

The author takes issue with the older writers who held that the diaphragm was the chief factor in abdominal breathing, and in singing accomplished its object by compressing the air in the thorax into the upper part of the lungs, so that a strong and steady stream would issue from the larynx during tone production.

Another view involved the "lutte vocale" where certain muscles antagonized one another, thereby producing the strong and steady stream of air which was supposed to be the object of abdominal

breathing. The author takes a widely different view. The object of abdominal breathing is not to insure a prolonged expiratory act, but to put air in the chest cavity in the best condition to favor resonance. This view of course completely demolishes the older arguments, if it be true. In this case the thoracic walls are held nearly immovable, and the varying changes of pressure are accomplished by means of the diaphragm and the abdominal muscles.

VITTUM.

**The Treatment of Chronic Bronchitis by Means of the Ipecacuanha Spray**—ARTHUR T. DAVIES—*International Clinics*, Vol. 1, 9th Series, April, 1899.

The author does not lay claim to being the originator of any new or novel form of procedure in the treatment of chronic bronchitis. He credits the authorship of this method to Drs. Ringer and Murrell, his attention being directed to it, some years ago, by reading a paper written by these gentlemen upon "The Value of the Ipecacuanha Spray in Winter Cough and Bronchitic Asthma." He states that their manner of employment consists in spraying the respiratory passages with vinum ipecacuanhae, either pure or diluted with three times its volume of water, using the ordinary hand-ball-spray apparatus or the steam atomizer of Siegle or Richardson. The patient is directed to inhale deeply, at the same time closing the nose with the fingers. From one to four drachms of the drug is the amount sprayed at a single sitting, the patient being directed not to swallow any of the spray which accumulates in the mouth.

The author reports a few cases treated as indicated and says his experience with the system satisfies him that the claims of its originators are not exaggerated.

The advantages claimed for it are that, without the internal administration of drugs, it rapidly relieves the dyspnea and tightness across the chest, loosens the secretions and promotes expectoration, secures sleep and shortens the duration of the disease. The amount and strength of the spray requires careful regulation, as in some cases it is at first not well borne and causes vomiting and even severe paroxysmal dyspnea. Because of excessive arching of the tongue, some patients fail to derive much benefit. The treatment is not applicable in true asthma, the ipecacuanha appearing to aggravate the disease. It is particularly applicable in those cases giving a history of repeated yearly attacks of bronchitis, distressing dyspnea, orthopnea, violent paroxysmal cough, difficulty of expectoration and sleeplessness.

The author incidentally mentions trinitrin as being another remedy which has been valuable in his hands, especially in the cases presenting great dyspnea and venous engorgement, and calls attention to the value of the various forms of tar in cases where there is only a moderate degree of dyspnea.

Ross.

## V. EAR.

**Otitis Externa Tropica**—P. N. GERRAD—*Lancet*, September 23, 1899.

The author gives a description of an affection which is of fairly common occurrence in Singapore and the Malay States. The symptoms somewhat resemble those associated with furunculosis, although the discharge of pus from the outer ear may take place painlessly. The results of bacteriological examination of the discharge are given, and an antiseptic line of treatment is suggested.

STCLAIR THOMSON.

**Deafness as a Result of the Abuse of Phenacetine**—H. GULEKE—*Zeitschr. für Prak. Aerzte*, November 15, 1899.

The author gave a prescription for powders containing 0.7 of phenacetine, one powder to be taken twice daily. Through the stupidity of those in charge, the powders were given every two hours; so that in the course of less than 24 hours the patient took 7.0 of the drug.

Aside from other toxic symptoms, the patient was entirely deaf. On the subsidence of the general symptoms the deafness continued and has proved to be permanent. Meningitis could be excluded, and the only explanation is that the function of the ear was entirely destroyed by the phenacetine.

VITTM.

**The Politzer and Gruber Clinics**—JOHN P. MORSON—*The Canad. Pract. and Rev.*, Vol. xxiv, No. 10.

Dr. Morton, in a short article, details in a very interesting manner the methods of diagnosis employed in both of these noted clinics. *Inter alia*, he makes the following statements: "Electric headlights are not used for illumination of the ear." In the diagnosis of catarrhal adhesive processes in the middle ear, "Bing's ingenious test is used to test the mobility of the stapes. Through the medium of a Eustachian catheter, an ear trumpet is connected directly with the tympanic cavity; the sound waves are thus conducted immediately through the base of the stapes and membrana tympani secundaria to the labyrinthine fluids. Another trumpet is connected with the external meatus. If speech cannot be heard through the latter source, but can easily be heard when spoken into the tube connected with the catheter, the stapes is then judged to be freely movable and the malleus and incus to be in some way stiffened.

Dr. Bing has also instituted a method which aids in differentiating ear trouble from nose trouble. The sounding tuning fork is placed upon the mastoid process; as soon as the note ceases, the external meatus is closed with the finger, and if the sound is not again heard middle ear disease is diagnosed."

In auditory nerve disease, good perception for the high notes is considered of no value, for so many cases of pronounced nerve



trouble are experienced in which excellent perception for the highest notes is retained. Rinne's test gives a positive result, the explanation being as follows: Normally the perception of the tuning fork through the air is longer than through the bone; in either case the nerve is finally called into action, and when it is diseased the air and bone conduction must suffer equally, which leaves them in the same relation to each other as in the normal condition, viz., positive Rinne. The important point, then, is not that we have a positive Rinne, for such is found in normal conditions, but that the Rinne is rendered positive by the shortening of the bone conduction."

GIBB WISHART.

**The Conservative Special Treatment of Chronic Suppuration of the Middle Ear**—STETTER—*Berliner Klin. Wochenschr.*, September 11-18, 1899.

This scholarly paper, which runs through two numbers of the journal mentioned above, deserves to be read by all who are interested in treating the ear, therefore, by all physicians. After remarking that not all cases of middle-ear trouble demand the radical operation, the author cites Lucae, who gives the results of his great experience: that, the general symptoms which justify the radical operation, are marked dizziness with disturbances in the gait, nausea and vomiting; while the local symptoms have to do with the duration of the disease, the condition of the post-aural region, the frequency of attacks of pain, facial paralysis, and the nature and quantity of the discharge.

In a thoroughly moderate and scientific manner the author then pleads for a more universal recourse to medical before proceeding to the heroic measures included in the radical operation. One great trouble met with in these cases was to find something which would render the thick tenacious pus more fluid so that the middle ear might be properly cleansed. The author thinks he has found this remedy in iodide of potash. His formula for the solution will be given later on. He also urges the use of Haug's chinolin-naphthol gauze, which on account of its softness and looseness of mesh can be gently packed deep into the meatus, and even into the middle ear itself, through the large perforation which is usually present in these cases. Granular conditions he combats with pure trichloroacetic acid when the granulations are prominent. When merely a finely granular condition of the drumhead or middle ear exists he advises the insertion of a tampon saturated with a 10 per cent solution of the acid.

To overcome the fetid and stinking condition of the discharge when present he makes use of menthoxol, a remedy which contains peroxide of hydrogen, and in contact with pus gives off oxygen, leaving behind menthol dissolved in alcohol. Most satisfactory results were obtained, the terrible fetor gradually disappearing, the discharge losing its deep yellow color and thin ichorous condition, and displaying the ordinary creamy color and consistence of laudable pus. The author himself sums up his treatment as follows:

(a) Careful cleansing of the meatus and middle ear by means of tampons saturated in lysol water—not with the syringe—after first rendering the pus fluid by dropping in the following: Sol. Kali Iod. 2 to 100, lysoli puri 20 drops, and followed by packing the meatus and middle ear with chinolin-naphthol gauze, at first two to three times daily, less often as the pus diminishes.

(b) A fetid secretion is to be combatted by dropping in three to four times daily a solution of menthoxol and aqua distil. equal parts, and afterwards the use of chinolin-naphthol gauze.

(c) Granulations when sufficiently large are to be removed by the snare or galvano-cautery. When smaller they are to be removed with pure trichloracetic acid. When no isolated granulations can be seen but rather an even granular thickening of the mucous membrane of the promontory wall, the use of tampons soaked in a 10 per cent solution of the acid is indicated.

(d) A periostitis of the mastoid process does not in itself unconditionally demand the radical operation. A two days' treatment with Burow's poultices, if ineffectual, may be followed by Wilde's incision. If, however, cicatrization does not follow in two or at most three weeks, the wound generally presents a condition of fungous granulation and the middle-ear suppuration shows no tendency to heal. Then should follow the radical operation after Stacke.

The author is most modest and moderate in advancing his views, and admits, of course, that numerous cases are met with which demand the radical treatment at once. He also admits that while his results have been good, yet the number of cases is small. Yet he maintains that many cases have been subjected to the dangers and discomforts of a radical operation which might have been cured by medical measures. And at the most he expresses the hope that this paper may be the means of stimulating investigation in this direction, and a sufficient number of cases may be reported to give us a firm ground for basing an opinion. One of the advantages emphasized by the author is that if this method of procedure be established many cases would be cured, which cannot (owing to distance, lack of means, etc.) receive the benefit of a radical operation.

In concluding, the author urges that physicians pay strict attention to those cases of otitis which follow scarlatina, measles, etc., and which are so frequently the cause of chronic otitis in later years.

VITTUM.

## VI. DIPHTHERIA, THYROID GLAND, ESOPHAGUS, ETC.

**Antitoxin in the Treatment of Diphtheria**—B. H. PORTUONDO—  
*Med. Rev.*, Oct. 9, 1899.

A history and review of the discovery and development of antitoxin. The great value of this remedy, and the fallacy of the arguments brought against its use by opponents, are points well presented.

EATON.

**Diphtheritic Paralysis in Cases Treated with Antitoxin—F. J. WOOLACOTT—***Lancet*, August 26, 1899.

Interesting tables are given showing the percentage of paralysis, the influence of age, the relative frequency of the various forms of paralysis, the severity of the paralysis, the muscles first affected and the date of the onset of paralysis. In conclusion, the influence of antitoxin on diphtheritic paralysis may be summarized as follows: Up to the present the percentage of paralysis has increased on the whole. There is some evidence that large doses—*i. e.*, not less than 4,000 units—of antitoxin are more effective than small ones, both in preventing paralysis and diminishing the mortality due to it. The earlier antitoxin is given in diphtheria, the less likely is paralysis to follow. Should it occur after early injection, it will probably be mild and of comparatively short duration. The type of paralysis has, on the whole, become less severe or, at all events, less dangerous to life. Finally, diphtheritic paralysis has become more prone to attack the young. This change in age incidence has possibly made some minor differences in the relative frequency with which the various forms of paralysis are observed. The practical conclusion is that the full value of antitoxin is only obtained by using it early and in efficient doses. If this be done, not only is life saved, but tedious complications are prevented, or at least deprived of their dangerous characters.

STCLAIR THOMSON.

**A Suggestion as to the Treatment of Graves' Disease by the Administration of Bile by the Mouth, Hypodermically and Intrathyroideal, with Cases—C. M. ALLAN—***Lancet*, August 26, 1899.

After accepting the view that this disease is an affection of the thyroid gland rather than of the nervous system, and giving some consideration to recent views on the functions of the liver, the author reports some cases in support of the line of treatment mentioned in the title.

STCLAIR THOMSON.

**Diphtheria: Its Identity and Transmissibility from Lower Animals to the Human Subject—WILLIAM MEANY—***American Practitioner and News*, November 15, 1899.

Authentic cases have been reported in which diphtheria was developed from a similar disease in fowls and cats. A disease has been observed in swine, sheep, horses, cattle and dogs which appears exactly similar to human diphtheria.

W. SCHEPPEGRELL.



## BOOK REVIEWS.

**The Cerebro-Spinal Fluid.** Its Spontaneous Escape from the Nose; with Observations on its Composition and Function in the Human subject. By STCLAIR THOMSON, M.D., M.R.C.P., London, F.R.C.S., England, Physician to the Throat Hospital; Surgeon to the Royal Ear Hospital, London. One octavo volume, 147 pages, bound in muslin. Cassell & Co., London, Price, 5s.; American agents, Wm. Wood & Co., New York; \$1.50 net.

In this original monograph the author desires to establish a hitherto unrecognized pathological factor in the matter of the cerebro-spinal fluid.

The escape of the cerebro-spinal fluid from the nose as a result of traumatism has long been known and occasionally recorded; the *spontaneous* escape of cerebro-spinal fluid from the nose, however, is the special feature of this monograph.

In the description of nasal hydrorrhea by recent writers, the cerebro-spinal fluid has received but little recognition and has been indifferently analyzed.

The author has had exceptional advantages in minutely recording his observations in a case of this character, where the profuse discharge from the nose existed for over five years.

A valuable adjunct of this monograph is the careful description of the chemical and microscopical analysis of the cerebro-spinal fluid, which was discharged from the nose.

Nine cases have been collected, described and tabulated, where the discharge from the nose was undoubtedly cerebro-spinal fluid.

In a second table twelve cases of rhinorrhea are recorded where the fluid discharged was probably cerebro-spinal fluid.

The monograph is a valuable contribution, not only to physiology generally, but to the pathology and identification of various forms of nasal hydrorrhea.

**On the Prevention of Eye Accidents Occurring in Trades.** By SIMEON SNELL, F.R.C.S., Edinburgh. Published by John Bale & Son, Oxford House, 85, 87, 89 Great Fitchfield Street, London, W. Price, 1s. net.

This attractive monograph is reprinted from the *British Medical Journal*, contains a series of excellent illustrations of various industrial pursuits in which the eye of the mechanic is unusually exposed.

The author offers the results of his large and most valued experience in this special line. His conclusions are put forth in a most concise and interesting manner, and are of particular worth to physicians living in large manufacturing districts.

**Over 1,000 Prescriptions** or Favorite Formulæ of Various Teachers, Authors and practicing Physicians. The whole being carefully indexed, and including most of the newer remedies. The Illustrated Medical Journal Co., Publishers, Detroit, Mich. Cloth, 300 pages, postpaid \$1.00.

This is the second edition of this handy manual, and is just from the press; it has nearly 100 pages of new matter added. The practical worth of this kind of a book consists in its having a handy and complete index. The book has some 16 pages of small type devoted to this object, and some of the lines have as many as 20 different references to as many different formulæ; this would go to show that there are about 2,000 different prescriptions given in the volume. We notice that many of the newer remedies are among the prescriptions, thus bringing the treatment of many of the diseases down to date. Both old and new writers of both home and foreign countries are represented among its formulæ.

Blank pages are frequently introduced, so that a handy place is furnished for recording any new prescription that one might wish to preserve.

**Progressive Medicine—Volume IV.** A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by HOBART AMORY HARE, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Lea Brothers & Co., Philadelphia and New York. Octavo, handsomely bound in cloth, 398 pages, 51 engravings and 5 plates.

As in the previous volumes of this series, all monographs appearing herein, which especially refer to otology, rhinology and laryngology, will receive individual attention in our Bibliography and Abstract Department.

# THE LARYNGOSCOPE.

VOL. VIII. ST. LOUIS, MO., MARCH, 1900.

No. 3.

## ORIGINAL COMMUNICATIONS.

(Original communications are received with the understanding  
that they are contributed exclusively to THE LARYNGOSCOPE.)

### A CASE OF FATAL SPHENOIDAL SUPPURATION.\*

BY SAMUEL LODGE, JR., M.D.

Surgeon to the Eye, Ear, Throat and Nose Department of the Royal Halifax Infirmary.

W. S., thirty-one, pawnbroker, was admitted into the Royal Halifax Infirmary on May 15, 1899, complaining of constant pain in right ear and right side of face of six months' duration. For the last two months the right side of his face has been swollen and there has been a copious discharge of matter, often mixed with blood, from the right nostril.

Patient had always been a fairly healthy man. Clear history of syphilis about nine years previously. He had been married nine months. His wife had never been pregnant. Patient was unable to sleep well on account of the constant pain.

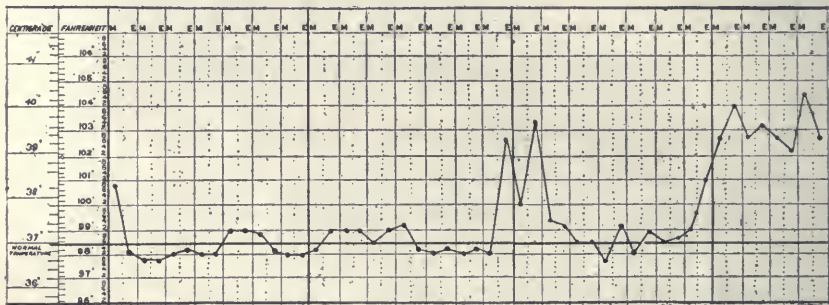
Prior to his admission he had been seen in consultation with Drs. Topham and Marshall who had for some weeks carried out vigorous antiseptic treatment.

*On Admission.*—Temperature, 100°. Skin over right superior maxilla red and edematous, teeth in fair condition. Discharge of thick pus from right nostril coming from region of superior meatus. Sequestrum in region of cribiform plate diagnosed. Nothing abnormal found in ears. Post rhinoscopy disclosed nothing abnormal. Chest and abdomen natural. Urine, sp. gr. 1014; no sugar; trace of albumen.

\* Communication read before the Leeds and West Riding Medico-Chirurgical Society November, 1899.

*Ophthalmoscopy.*—Fundi normal.

May 16th. Antrum of Highmore explored with Lichtwitz's antral trocar. Boric acid solution used for flushing antrum returned free from pus. Patient expresses himself as feeling better to-day, temperature normal. Alkaline wash prescribed for nose. Patient had been taking 60 grains of iodide of potassium thrice daily before admission, as well as inunctions, so it was thought safe to-day to reduce dose to gr. 30 ter die.



Patient continued to feel much better, took interest in what was going on in the ward and was allowed to get up part of the day.

May 26th. K. I. increased again to 60 grains 3 die.

May 28th. Rigor in evening, temperature rose to 102.6°.

May 29th. Patient no better; M. T. 100°; E. T. 103.4°.

June 4th. Patient worse; E. T. 101°.

June 5th. Patient drowsy; M. T. 102.6°; E. T. 104°.

June 6th. M. T. 102.6°; E. T. 103.2°.

June 7th. Patient comatose. Tongue and lips covered with sordes, discharge from nostril more copious. Head slightly retracted, slight external strabismus. Constant twitching of left arm. Pulse 88, full and bounding.

Respiration 24, M. T. 102.6°; E. T. 102.2°.

June 8th. M. T. 104.4°; E. T. 102.6°.

Patient gradually sank.

*Post-Mortem Examination.*—Scar on penis from old sore.

*Skull.*—The base of brain was bathed in thick greenish pus, principally in neighborhood of pituitary body, the pus extended backwards over pons and medulla. No brain abscess. Ventricles contained more than normal amount of fluid.

Frontal sinuses normal.

Cribriform plate of ethmoid and ethmoidal cells normal.



To the right of the sella turcici there was some necrosis of walls of sphenoidal sinus. Probe readily passed from base of skull through sphenoidal sinus into nose. There was a large free opening from sinus into nose. The sinus was full of thick muco-pus. Cavernous sinus not thrombosed. Right antrum of Highmore opened contained about a drachm of thick glairy mucus.

*Lungs.*—Bases edematous, otherwise normal.

*Remarks.*—About eight years ago the patient had consulted me for severe secondary pharyngitis which speedily subsided under the usual treatment. I think that most rhinologists find that their severest cases of tertiary syphilis rarely terminate fatally if vigorously pushed medicinal treatment and the requisite surgical measures be adopted. The patient bore examination of his nose badly and the flow of pus from his right nostril was so profuse and persistent that its rapid reappearance after cleansing the nose made anything like a satisfactory examination next to impossible. The discharge coming away anteriorly and from a point above the middle turbinal led to the exclusion of maxillary, frontal, anterior ethmoidal, and sphenoidal empyemata. The edema of the right cheek suggested exploration of maxillary antrum. The results being negative, the edema was put down to some condition in the nose impeding the venous return. Necrosis of the roof of the nose was diagnosed, coupled possibly with posterior ethmoidal sinusitis. The copious flow of pus and the steady improvement of the patient for some days after his admission led one to assume that pus was not pent up, and that to explore more thoroughly the roof of the nose and posterior ethmoidal cells would be likely to break down the natural rampart of granulation tissue and thus expose the cranial cavity to pathogenic invasion.

The sudden onset of septic meningitis dissipated this feeling of security. The opportunity for successful surgical interference had been allowed to glide by. Nevertheless grave risks to life as well as to important structures (*e. g.*, contents of right orbit) would necessarily have been incurred by the complicated surgical technique required. But the labors of Macewen and others in the analogous conditions met with in destruction of the tegmen tympani, or other parts, in middle-ear disease, have demonstrated that even in this situation much, if not everything, might have been accomplished by a careful but bold surgeon operating on similar lines.

My thanks are due to our late senior house surgeon, Mr. W. A. Dickson, for much valuable help in the conduct of this case.

# REPORT OF A CASE ILLUSTRATING THE IMPORTANCE AND POSSIBILITIES IN THE EARLY RECOGNITION AND TREATMENT OF MALIGNANT GROWTHS OF THE LARYNX.\*

BY W. K. SIMPSON, M.D., NEW YORK.

Chief of Clinic and Instructor in Laryngology, College of Physicians and Surgeons, N. Y. (Col. University); Fellow American Laryngological Association.

Pt.—J. R., male, forty-four, cook. Seen first by me on September 22, 1896, giving a history of progressive hoarseness for a period of two months, becoming markedly worse during the last two weeks. Otherwise the patient's history was negative. Examination of the larynx at this time revealed a moderate-sized papillomatous growth, slightly pedunculated, very white in color, springing from the free edge of the right vocal cord at about its center; the mucous membrane of the vocal cords and the remainder of the larynx were very red, indeed, making the contrast with the growth very marked. There was an entire absence of any induration or other conditions pointing to malignancy, the whole aspect of the growth giving the



Fig. 1. Sept. 22, 1896. Before first removal.

appearance of being entirely benign in character. On October 4, 1896, I removed the growth with the tube forceps, using a two per cent solution of cocaine; an apparently clean removal was made at the first attempt; there was no bleeding, and a good return of voice. The pathologist reported that the growth was a simple papilloma. The patient progressed most favorably for about nine weeks, when the hoarseness returned, and an examination on December 13th, same

\* Read before the Section of Laryngology, New York Academy of Medicine, January 24, 1900.



Fig. 2. Dec. 13, 1896. Nine weeks after first removal.

year, revealed a recurrence by the presence, at the original site, of two distinct growths. (Fig. No. 2.) During the interval between December 16, 1896, and January 24, 1897, the patient suffered from an attack of pneumonia. On January 24, 1897, I removed the two recurring growths, which had somewhat increased in size; the removal, by tube forceps, was made in two attempts, using a mixture for anesthesia of one per cent solution cocaine and two per cent eucaïne; owing to an unsatisfactory anesthesia a two per cent solution of cocaine alone was substituted, which answered the purpose. A fairly large quantity was used, both by spray and application, but no systemic symptoms of cocaine followed.

Though the general appearance of the two recurring growths was benign in character, the space between them was a little thickened, which suggested that there might be a further extension of origin beneath the free edge of the vocal cord.

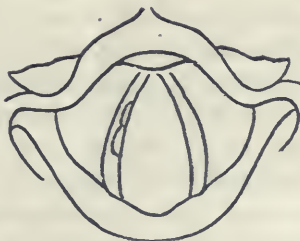


Fig. 3. Jan. 24, 1897. Immediate appearance after second removal.

The removal demonstrated this to be the case. It was owing to this suspicion that in the removal I included a considerable portion of the underlying tissue (Fig. No. 3), leaving two cleanly-cut crescentic spaces.



The microscopical report on these first recurring growths, by Dr. John S. Thacher, pathologist to the Presbyterian Hospital, was as follows: "Epithelial layer considerably thickened; in places there are islands of epithelial cells surrounded by connective tissue. There is quite a regular mixing of the epithelial and connective tissue structure. Many of the epithelial nuclei show mitotic figures; there are numerous leucocytes in the connective tissue and a few have made their way between the epithelial cells. The growth should probably be classed as an epithelioma."

*January 27, 1897.*—Three days after second removal the vocal cord, though clear, save a very minute pin-head remnant, had become somewhat red, with a loss of its normal sharp contour. The left (other) false cord had become somewhat thickened and overlapped the true cord in phonation, and there seemed to be a slight tearing on its surface. This I attributed to a possible traumatism during removal.

*January 31, 1897.*—One week following removal there was about the same general appearance as on the 27th, though the voice was somewhat better and a slight tendency to clearing up of the left false cord.

*February 7, 1897.*—No thickening of the originally affected cord, though the pin-point remnant shows signs of being more defined; the left false cord is better in appearance.

*February 14, 1897.*—Voice becoming better; general appearance of larynx some better, excepting slight remnant of the wound of the left cord; the growth at original site increasing in size. In view of the microscopical report and the apparent confirmation of malignancy by the tendency to rapid recurrence and general aspect of the larynx, I sent the patient, on February 15th, to Dr. C. H. Knight in consultation, especially as to the nature of any subsequent operation. He concurred in the opinion that there was a strong suspicion of malignancy, and in the event of no change for the better, suggested laryngeal fissure as a suitable operation in so early a case.

*February 22, 1897.*—The voice has been about normal for two days. The right vocal cord still a little red, in streaks; no thickening or induration; a small but increasing papillomatous growth marks the site of the original tumor. It is whitish in color and every appearance of being benign. The left side of the larynx is assuming a natural condition. The whole larynx is taking on condition as when first seen, only the recurring growth is smaller than the original.



Fig. 4. Feb. 23, 1897. At time of third operation.

*February 23, 1897.*—About fourteen weeks after the first operation I removed, for the third time, with tube forceps, the recurring growth, making at one attempt a clean and deep removal. I followed the removal with a deep galvano-cauterization, using a flat-guarded electrode. (Fig. 5.)

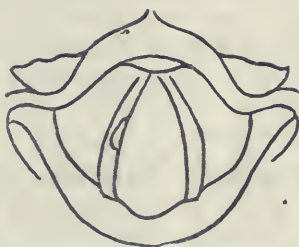


Fig. 5. Appearance after third operation.

*February 28, 1897.*—Larynx is remarkably clean, with no remains of cauterization or growth; redness of the right vocal cord entirely disappeared; voice good; there has been a slight soreness from the cauterization; motion of larynx is good.

*March 7, 1897.*—There is still no trace of growth, its site being occupied by a slight concavity due to the combined removal and cauterization. From that date to this, January 20, 1900, a period of three years and three months from the date of first operation, there has been no further recurrence, either of hoarseness or of the growth, and the patient has expressed himself as having been in extremely good health. A microscopical report of the small last growth removed, made by our colleague, Dr. Jonathan Wright, classes it as a papilloma.

It might be stated that the specimen sent Dr. Wright was a very small one and from the superficial portion of the growth.

Though from the history and final result of the above case it might appear from a clinical standpoint as if we had to contend with a recurring papilloma, still I think it will serve to emphasize some important and positive points in the consideration of laryngeal growths in the adult. Among them may be mentioned the important fact that all new laryngeal growths in the adult, especially of a recurring nature, however simple in appearance, should always be regarded with suspicion, and our prognosis governed accordingly, realizing that the relation between benignity and malignancy is often so close that the line of demarkation is indeed difficult to define.

Secondly, The difficulty and anxiety attending a positive diagnosis in *very early cases*, where a period of transition is apparently present, and where the microscopical examination admits of some doubt.

Thirdly, The satisfactory results which may sometimes attend our efforts at treatment, by a thorough removal of the growth and destruction of the underlying tissues, remembering that even in some cases of early recognition and removal, where an absolutely positive diagnosis of malignancy has been substantiated, a cure may be effected without resorting to the major operation of laryngectomy.

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### ITCHING OF THE AUDITORY MEATUS.

BY ALEX. W. STIRLING, M.D., C.M. (EDINB.), D.P.H. (LOND.) ATLANTA.

I have been led to think by one or two cases which I have recently had under my care that a cause of irritation and even furuncle of the external ear may perhaps not infrequently be overlooked. I refer to an irritation arising in reality near the pharyngeal mouth of the Eustachian tube, and transferred to the ear. I have observed that the inflamed appearance of the meatus may be caused to entirely disappear by medication and strict orders that the ear is not to be scratched while the itching may continue. Also, that itching of the meatus may be caused by applications near the Eustachian orifice, and may be relieved by sedatives to the same region. I have a strong suspicion that the order of events may not infrequently be: first, an inflammatory condition of the pharynx giving rise to intense itching of the ear; second, scratching of the ear with removal of the protecting epithelium; and third, inflammation of the skin with local pain or itching.

It follows that treatment, to have a permanently good effect, must attack the pharynx as well as the ear.



## THE SILVER SALTS IN THE TREATMENT OF CHRONIC SUPPURATION OF THE MIDDLE EAR.\*

BY E. B. GLEASON, M.D.

Clinic Professor of Otology, Medico-Chirurgical College, Philadelphia.

Argentio nitrate has been used from time immemorial in the treatment of aural diseases. The application of silver nitrate to the drumhead in chronic catarrh of the middle ear was a favorite method of treatment with Sir William Wilde, who stated that it relieved tinnitus and improved the hearing. His explanation was that it causes exfoliation of the epidermal layer and thus diminishes the thickness of the drumhead. Wilde attached undue importance to the part played by the drumhead in the function of hearing, and the beneficial results recorded were probably not the effect of exfoliation of the epidermic layer, but were due to the sedative effects of the silver deposited in the tissues.

Solid silver nitrate when applied to moist tissue is a feeble cauterant, producing a superficial slough. Solutions of silver nitrate produce such very superficial sloughs that they may be classed as irritants; or, when very diluted, as stimulating astringents and antiseptics. The antiseptic properties of the silver compounds should not be lost sight of. If a silver wire be allowed to remain in a culture medium, many of the more common bacteria cease to grow in the immediate vicinity of the silver.

When a solution of silver nitrate is painted upon a mucous surface it is decomposed and organic silver compounds are formed. These are further decomposed, with the final result of the formation of argentic oxide; which, if in sufficient quantity, stains the tissues a characteristic bluish-black color. Nitrate of silver is an irritant; the organic compounds resulting from its application to mucous surfaces are, however, sedative.

Whether the irritant or sedative effects of silver nitrate predominate, depends largely upon the character of the epithelial layer of the mucous membrane to which it is applied. If a sixty-grain solution be painted upon the posterior wall of the pharynx the irritating quality is manifested and produces discomfort, persisting for some time. If, however, this solution be painted upon inflamed tonsils and the inflamed lateral wall of the pharynx, the primary irritant

\* Read before the Section of Otology and Laryngology of the Philadelphia College of Physicians, January 17, 1900.

qualities of the nitrates are scarcely perceptible and the procedure is followed by a sense of great relief and comfort. Painting with a sixty-grain solution the lateral walls of the pharynx once in twelve or twenty-four hours indeed is one of the best methods of aborting acute pharyngitis and tonsillitis.

Application of solid nitrate of silver to the stump of a polypus, or to granulation tissue, was a favorite method of treatment with the otologists of a generation ago. It produces a smaller slough than chromic acid, and is more irritant than trichlor-acetic acid. Its application is followed by increased discharge during the period that the slough is separating. In chronic otorrhea, solutions as weak as ten grains to the ounce, when applied to the mucous membrane of the atrium or injected into the attic, produce increased discharge for a varying period, after which the discharge is sometimes diminished.

The use of solution of nitrate of silver in the treatment of chronic otorrhea has not been markedly successful, for in the majority of instances the irritating effects of the solution have overshadowed the antiseptic and astringent properties of the silver and rendered progress slow. In cases requiring an astringent, alcohol diluted to a greater or less extent renders better service; and in cases where granulations were neither large or numerous, better results are obtainable by the so-called dry treatment with powdered boric acid.

Manifestly with alcohol and even with boric acid, in the majority of cases it was evident that I was employing an irritant; and many of my cases, with large perforations, did better by simple cleansing of the exposed intra-tympanic membrane with absorbent cotton which has been sterilized by scorching over the flame of a lamp after being wrapped about the end of a probe. It is, of course, nearly impossible to apply powdered boric acid to the attic, and in attic cases, syringing with an antiseptic solution and carefully drying the parts is all that is available in the way of treatment without resorting to surgical intervention.

When the statement was made that certain organic silver salts were astringent to mucous membranes, without being in the least irritating, my expectation was that they would prove most valuable in the treatment of prolonged otorrheas in which the attic and probably the mastoid antrum were involved in a suppurative process.

The most popular of these organic silver salts are Argonin and Protargol. As in solution the former is somewhat unstable and when partially decomposed is said to be irritating, my experience has been confined to the latter. As an injection in gonorrhea it has been most successfully used in one-half to two per cent solutions.

In various forms of conjunctivitis with but few exceptions it yields excellent results when applied to the palpebral conjunctive in a five per cent solution; ten per cent and even twenty per cent solutions may be used in the eye without producing more than transient irritation.

In the following cases of prolonged otorrhea a hypodermic syringe full of a five per cent solution, by means of a Blake's cannula, was injected as high up into the attic as possible. The parts then were massaged with Siegle's pneumatic speculum, in order, if possible, to force a portion of the solution into more distant parts than could be reached with the syringe. The ear finally was carefully dried by means of absorbent cotton. Before using the protargol the middle ear had been cleansed with the aid of Blake's cannula and dried in the usual manner.

*Case I.*—Robust man of about fifty. Remains of the drumhead, malleus and part of the scute had been removed about two years before. In spite of repeated curettment of the accessible portions of attic and the use of chromic acid fused on a probe, and instillations of alcohol, the ear continued to secrete a scanty, fetid discharge. After one injection of protargol the ear became absolutely dry and the visible parts cicatrized.

*Case II.*—Young man of about twenty-one, a seminarian. Had been under the care of a competent aurist without benefit for the period of two years, one year before I saw him. Had since contented himself with syringing the ear with boric acid water and drying the parts. Discharge somewhat abundant and slightly fetid. Lower segment of drumhead lacking. Posterior to malleus, from a sinus, a small polypus was removed with Allport's forceps and protargol injected. One week afterward, there was a scanty, odorless discharge, some of which had dried in upper part of the canal. Protargol injected the second time the patient went home for the holidays, and on his return, three weeks afterwards, the parts were found absolutely dry and the visible portions of the middle ear cicatrized.

*Case III.*—A girl fifteen years of age. Remains of drumhead, malleus and scute had been removed about a year and a half before; incus not found. Ear had continued to discharge since the operation through a sinus at the upper portion of a cicatricial drumhead. After the first injection of protargol the discharge becomes scanty and odorless. A second injection was given at the end of a week. The patient failed to visit the office for nearly three weeks, but stated that it had been unnecessary to cleanse the ear since her last visit. A considerable quantity of inspissated secretion was seen in the lower portion of the canal. Two injections of protargol were then made at intervals of three days, but without bringing about an entire cessation of the discharge.



*Case IV.*—Man of about thirty-five. Otorrhea for twenty years. Polypi have been removed from time to time from the attic during last year or more. Ear continued to discharge varying quantities of pus. Patient somewhat irregular in attendance. Refused operative procedures except removal of polypi. Ear became dry and cicatrized after two injections of protargol.

I have used protargol in only these four attic cases, as cases of this kind are somewhat rare and I could not quickly collect together a large number. I am aware that "one swallow does not make a summer," but I have submitted this preliminary note because the cures having been so speedy in three of the cases would indicate that we have in protargol an antiseptic and astringent superior to any now used in the treatment of chronic middle-ear suppuration, and much more easy of application than any of the powders. Protargol, of course, will not remove the ossicles in cases where their presence interferes with proper drainage. It will not remove accumulations of cholesteatomatous material from the attic and antrum in cases requiring a radical mastoid operation. It will not remove polypi. It is, however, in a five per cent solution, an astringent and antiseptic quite unirritating to the middle-ear mucous membrane.

I have used the five per cent solution in the auditory canal, the atrium, and also in the pharynx, with success in decreasing inflammation and modifying secretion. Unlike nitrate of silver solutions, it is unirritating to the posterior pharyngeal wall. It does not sear the tissues, and hence penetrates more deeply than nitrate of silver solutions, but produces no stain either upon the mucous membrane or the skin. For controlling hemorrhage, or searing the stump of an aural polypus, protargol is greatly inferior to nitrate of silver.

A reference to the literature of the subject would indicate that protargol previously has not been used in the treatment of aural diseases. Although Benario, in an article dealing with the antigonorrheal properties of the drug, states (*Deutsche Med. Wochenschrift*, No. 49, 1897): "I do not doubt that many indications for the use of protargol will arise in otological and rhinological practice, especially in bacterial affections, and that it will prove serviceable in the treatment of gastric ulcer."

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## REPORT OF A CASE OF PERSISTENTLY RECURRING EPISTAXIS.

BY C. C. STEPHENSON, LITTLE ROCK, ARK.

Though most cases of nose-bleed terminate favorably, the following would seem to merit a report, in view of its severity and persistent recurrence.

J. T. B., white, male, æt. twenty-eight, laborer, was referred to me October 20th, by his family physician. He gave the following history: Four years ago, while working with a threshing machine in Oklahoma, his nose began to bleed at about 10 o'clock in the morning without any provocative cause. Being in the best of health, and not subject to nose-bleed, not much attention was paid to the matter in the beginning, supposing that it would stop spontaneously. After using cold water it seemed to show indications of persistence by getting worse; the water was kept up for awhile, and finally he had to quit work. The bleeding becoming more violent he went to his home and assumed a recumbent posture, and used the various little domestic remedies, one after another, till finally in four or five hours the bleeding stopped. The next day he began work again, resulting in about the same experience as the day before, and for a week afterwards he had slight attacks at intervals during the day, and while asleep at night it would awaken him. Finally it stopped altogether and did not recur for a year, when, without any ascertainable cause, he had another attack, lasting about a week or ten days, bleeding at intervals as before. He had no more trouble until this year. August 20th last he was firing some charges of dynamite in blasting rock five or six miles from the city, when he began suffering from a violent headache, which produced another attack, due undoubtedly to a transient congestion, followed by the engorgement of the nasal vessels to such an extent that ruptures in both vessels and the mucous membrane probably resulted.

The bleeding was so profuse that he had to quit work at once and return to his home. He again used the ordinary little agencies of a domestic type to check the bleeding, but was unsuccessful, and becoming discouraged he sent for a physician—the first time one had been called. A prescription was given him that controlled the hemorrhage without trouble, but a recurrence took place that

night while the patient was asleep, and was accompanied by a headache. Again the prescription was used successfully.

The next day his nose began bleeding again, and again he sent for his physician. He was unable to get him, and the same prescription was used again, but without any perceptible benefit. Another physician was called, who prescribed and succeeded in stopping the bleeding, though not until after plugging the anterior nares. From this time on he had nasal hemorrhages daily, and then during the night it would waken him from sleep. When I first saw him anemia was present to an extreme degree, and he was so weak that the slightest exertion would prostrate him. He was as near bloodless as any one could be. In fact he presented a picture of profound prostration. His pulse was ninety and his temperature ninety-eight. Both anterior nares were plugged with some dirty cotton that had a small quantity of pulvis acacia dusted on. These plugs had been in situ for thirty-six hours and there was a continued oozing of the mixture, composed of serum, blood and nasal mucus, and on removal a large decomposed clot was detached and liberated through the mouth, emitting a very foul odor. The oozing continued about the same after the removal of the plugs and clot. I first sprayed his nose with a carbolized solution, using weak pressure of only eight pounds of compressed air in my reservoir lest I should rupture the membranes by the usual pressure of twenty pounds. I next proceeded to cocaineize both nasal cavities with a ten per cent solution, which produced constriction of the blood vessels and check the oozing. The mucus seemed to discharge with renewed activity, and I soon discovered that I had a rhinorrhea complicating. I now sprayed with Seiler's solution, and the amount of mucus discharged appeared incredible. After clearing both fossæ, so that I could see clearly, I began searching for bleeding points, not expecting, however, to locate any, as I suspected that these hemorrhages had their origin in the adjacent sinuses, the persistent character of the case pointing to this. My supposition was that the various remedies that had been employed with the plugging of the nares failed to come into direct contact with the solution of continuity. However, branches of the sphenopalatine artery were easily discernible upon the septum and the least interference would cause bleeding. My first impulse was to cauterize with electricity. I reapplied a ten per cent of cocaine to the parts and proceeded to touch the ruptured points, using cherry-red heat. The results at first were magical. A two per cent solution of menthol in liquid alboline was



sprayed and both nares plugged with bichloride gauze, cut in strips an inch wide, and the patient was given strychnine, iron and ergot, and a plentiful diet of milk, eggs and beef. I saw him the next day and found him worse. My eschars, instead of acting as protectives, became detached on removal of the plugs, which were saturated with blood. Another large clot was dislodged, and the rhinorrheal discharge came pouring out as it did the day before. I sprayed again with Seiler's solution, and then cocainized the parts and reapplied the plugs. I had now come to regret the use of the electro-cautery, as I had a raw surface to deal with at every place touched with the electrode, yet it was used in the most delicate manner. The next day about the same condition was present, except the rhinorrheal discharge was less this time. I insufflated a powder composod of antipyrine and tannin, using a small bulb insufflator. Afterwards the plugs were reapplied, which I began to see were indispensable. This calls to mind Casselberry's case (De Schweinitz "Diseases of the Eye, Ear, Nose and Throat," page 904) in which he saved the life of one patient through required packing for a period of five weeks. My patient's condition remained about the same in spite of all the agents used, the only beneficial one of which was cocaine. I gave him a prescription for a ten per cent oily solution and directed him to spray every two hours. All other remedies, as packing, powders, cauteries and ointments were discontinued. He began to improve, and remained in my care four weeks, gaining twelve pounds. The fifth week he began work blasting rock, and continued all right after a week of such labor, with no recurrence of hemorrhage whatsoever. Since then, unfortunately, I have lost sight of him, and am unable to say if the cure is permanent. This man had persistent attacks of nose-bleed daily and nightly from one to several times during twenty-four hours, covering a period of three months, completely incapacitating him for work.

The ideas which I wish to emphasize in reporting this case are the value of the soothing agents applied with the less degree of force and the unsatisfactory results following the use of the electro-cautery and cauterizing with the solid stick of nitrate of silver and chromic acid in persistent epistaxis.

Masonic Temple.

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## SOCIETY PROCEEDINGS.

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### NEW YORK ACADEMY OF MEDICINE.

#### SECTION ON LARYNGOLOGY AND RHINOLOGY.

Stated Meeting, January 24, 1900.

Wendell C. Phillips, M.D., Chairman.

#### **An Improved Powder Blower.**

Dr. J. F. McKernon exhibited a simple powder blower which could readily be kept clean. It had a screw cap which prevented the cork from being blown out of the bottle by the air pressure.

#### **Capillary Adenoma of the Thyroid with Carcinomatous Degeneration Causing Laryngeal Symptoms.**

Dr. M. D. Lederman reported the case of a man, forty-six years of age, a singer in the synagogue, who had been following this calling for many years. One day on reaching home a swelling was noticed on the left side of the neck. At that time Prof. Frankel, of Berlin, had examined the larynx with negative results. No operation had been attempted for fear of injuring the laryngeal nerve. Prof. Kirstein had then seen the case, and had made a diagnosis of cystic goitre. After removal of some of the fluid the man's voice had improved somewhat, but the fluid had quickly returned. When seen by Dr. Lederman two years ago there had been a local swelling of the thyroid gland. The man was quite hoarse and sought treatment on this account. He suffered no pain and there was no difficulty in swallowing. The left vocal cord was in the cadaveric position. Stringent applications were made to the larynx and strychnia was given internally. After about six months the movement of the right vocal cord compensated for the left cord, which was immovable. As the external swelling was growing, a surgeon saw the man and advised aspiration and the injection of iodine. As the result of this there had been a transient edema of the aryteno-epiglottical fold. Shortly afterwards he had been operated upon by Dr. Gerster. Lately there has appeared an ulceration and fungoid mass on the posterior third of the left vocal cord. The diagnosis made in the hospital had been malign-

nant papillary adenoma with carcinomatous degeneration. The man was at present in good general condition, though there was an increase in the size of the tumor, which is presenting in the lower pharynx.

#### **Epithelioma of the Larynx Exhibiting Early Esophageal Symptoms.**

Dr. James F. McKernon reported this case and presented the patient, a woman fifty-seven years of age. She had first come under observation on December 7, 1899. Up to two months previously her general health had been very good, but at that time there had been almost continual cough and marked hoarseness. The cough had then become paroxysmal, especially in the morning, the paroxysm being followed by the expectoration of much mucus and blood. On the morning of December 12th difficulty in swallowing had been noticed. This difficulty had steadily increased until now it was exceedingly difficult for her to swallow even a teaspoonful of water. The laryngeal examination showed marked swelling of the arytenoids, the commissure covered with glairy mucus, and to the left an ulceration about one-fourth of an inch in diameter, and also an infiltration of the esophageal opening at the lower pharynx. Examination by the pathologists showed a true epithelioma of the larynx.

#### **The Destructive Effect of Inherited Syphilis.**

Dr. Francis J. Quinlan presented a man, forty years of age, exhibiting the destructive effects of inherited syphilis. Up to the age of eighteen or twenty years there had been no symptoms, then he had suddenly experienced a soreness of the throat, and this had been followed by the expectoration of pieces of bone. Shortly afterwards there had been a violent spasmodic coughing spell, followed by complete collapse of the nose. Subsequently the man had married, and had had chancre. The case exhibited destruction of septum, bony and cartilaginous, with several perforations of soft palate and cicatricial adhesions of the lower faucial (post) fold to pharyngeal wall.

#### **Epithelioma of the Larynx—Preliminary Tracheotomy.**

Dr. Chas. H. Knight reported a case of epithelioma of the larynx in which a preliminary tracheotomy had been done with a view to performing the radical operation later. The patient was a man who was in a very precarious state from laryngeal stenosis before the trachea was opened, but since then he had been so comfortable that he had declined to submit to extirpation of the larynx. Meanwhile the neoplasm is steadily increasing.



### **A Case of Ulceration of the Inner Surface of the Cheek and Alveolar Process.**

Dr. Knight also presented a case exhibiting an ulceration of the inner surface of the cheek, and involving to some extent the alveolar process. According to the history he had been infected with syphilis thirty-five years ago. He had been taking moderate doses of mercury and iodide for the past few weeks. The point of interest relates to differential diagnosis, whether the lesion be malignant, an ulcerating gumma, or a mercurial stomatitis. The rapid development of the ulcer and a negative microscopic examination would tend to exclude the first; the history would favor the second theory but for the fact that the breaking down of tissue occurred while the patient was under specific medication.

Dr. Jonathan Wright said that he had examined a piece removed from this case, and had found only a bunch of normal gland tissue.

### **A Case Presented for Diagnosis.**

Dr. J. E. Newcomb presented a single man of forty years, who for several years had been employed as a hospital orderly. Eight years ago there had been hoarseness for a short time. In June, 1899, the hoarseness had reappeared after a cold. The lungs had been examined in August, and only slight high pitch respiration at the right apex in front had been found. The larynx showed an infiltration of the left vocal cord, and the latter moved sluggishly and did not quite approximate its fellow. On December 22, 1899, examination showed more pronounced infiltration of the left vocal cord, and an edematous condition of the corresponding arytenoid summit. He had first looked upon the case as tubercular, but now doubted this, and for that reason presented the case for diagnosis.

### **Case for Diagnosis.**

Dr. Meierhoff presented a patient whom he had first seen in the latter part of 1896. The man is by occupation an instructor in vocal music. He complained of his voice. On examination all that could be found unusual was tumefaction of the right lingual tonsil. After a few months he had returned complaining of pain in the ear on the right side; there had been slight discharge from it, but nothing to indicate an active process in that ear. He had then lost sight of the man for four or five months. On his return he stated that he had an abscess opened in the dorsal region of the spine, and he was at that time wearing a plaster of paris jacket and a jury mast. In the fall of 1897 he had been unable to swal-

low, and examination showed that the site of the former swelling was then represented by an enormous slough. He had then been placed under Dr. Gerster's observation at the Mt. Sinai Hospital. After about a year the ulceration had yielded. Two or three weeks ago the man had returned complaining of pain on the left side, and on that side examination showed swelling of the lingual tonsil similar to what had been on the other side. Two days ago examination showed also a return of the tumefaction on the right side just as it had been in 1896.

## DISCUSSION.

Dr. Wm. K. Simpson, referring to Dr. McKernon's case, said that the growth was distinctly extra-laryngeal in its nature, and from its appearance and the negative action of iodide there seemed to be little doubt about its malignancy. The case seemed to be inoperable.

Dr. Wendell C. Phillips concurred in the opinion that the tumor was extra-laryngeal because there was an entire immobility of the arytenoids and the vocal cords were perfectly normal.

Dr. J. Wright said that nearly all of the tumors of the posterior wall originate in the esophagus. Malignant disease of the larynx is very much more rare in women than men.

Dr. Simpson recalled two cases in which the symptoms were mainly laryngeal, and at the operation both the esophagus and larynx were found so extensively involved that the operation had to be discontinued. One of these cases had been under the care of Dr. Quinlan.

Dr. F. J. Quinlan remarked that he had seen four cases of malignant disease in this locality, viz., affecting the posterior laryngeal wall in females; the youngest was nineteen years and the ages of the others ranged between forty and sixty years.

Dr. Arthur B. Duel, referring to the cases of Dr. Knight, said that the first case had been an ideal one for laryngectomy at the time of performing the preliminary tracheotomy. The value of doing a tracheotomy some days or even some weeks prior to laryngectomy was well emphasized by this patient. The second case had not been long enough under observation, but it had been presented with the idea of determining whether the condition was due to syphilis, carcinoma or perhaps to mercurialism.

Dr. Jonathan Wright said that no doubt there was sufficient urgency in this case to justify a tracheotomy, but in the cases he had met with a preliminary tracheotomy had been a source of an-

noyance rather than a benefit. It interfered very decidedly with the dissection of the trachea and larynx from the posterior wall. Moreover, there was an additional risk from the tracheotomy itself. The advantage of the tracheotomy was but slight, especially when nitrous oxide gas was the anesthetic employed. With this anesthetic there was less shock and no mucus in the air passages; the only disadvantage was the blackness of the field of operation from engorgement of the vessels with venous blood. The second case looked to him to be one of ptyalism.

Dr. Lederman said that in the second case there was marked infiltration of the tongue which closely resembled syphilis.

Dr. Duel said that he had been under specific treatment for nearly six months. He had had three paralytic strokes and had been in consequence under specific treatment. He had received a large quantity of mercury.

Dr. Lederman, referring to Dr. Meierhoff's case, said that he had seen it a year ago, and at that time there had been a distinct ulceration. If the case was tubercular there should have been further extension of the disease by this time.

Dr. W. Freudenthal, referring to Dr. Newcomb's case, said that he had seen the patient seven years ago. Examination at that time had revealed acute laryngitis and bronchitis. These had disappeared quickly and had left behind a more or less edematous condition. There was no reason to believe the affection to be either syphilitic or tubercular. He could recall a similar case in a man thirty-two years of age, which had afterwards changed into pachydermia. This man had subsequently consulted a number of laryngologists in Berlin and Vienna, and they had all corroborated the diagnosis of pachydermia.

Dr. Quinlan said that he had seen a man two months ago in a similar condition. Repeated examinations of the sputum had failed to reveal any tubercle bacilli. He, however, persisted in giving a mixed treatment, and this lateral tumefaction of ventricular band entirely disappeared. Of course this swelling might have been only a coincidence, but in conditions of this nature it is always wise to give the patients iodide of potash.

Dr. Newcomb said that the man had not been treated systematically. No bacilli had been found in the sputum. He had had one slight hemorrhage. He was now on the iodide for the first time.



### **The Past and Present of Laryngology.**

Dr. Orlando B. Douglas read a paper with this title. He said that much of the advance made in laryngology dated from the introduction of the laryngoscope by Czermak in 1858. One of the first in this city to learn the use of this instrument was Dr. Elsborg, who was the first to establish a free throat clinic, and to deliver, in 1861, the first course of lectures on laryngology in this country. The progress made in the past forty years had been largely due to the special study of the nature and causes of disease. In about eighty institutions of Greater New York diseases of the nose and throat are supposed to receive special attention. The author requested that in the discussion consideration should be given especially to the following questions:

1. What has brought you the greatest success in the treatment of diseases of the nose and throat?
2. What is the greatest—what do you most lack in the successful treatment of these diseases?
3. Along what line of investigation in nose and throat work promises the best results? The object being the relief of the greatest amount of human suffering.

Dr. Beaman Douglass said that this paper presented well the opportunities which were before the laryngologist. He would call especial attention to the facilities now obtainable in this country as compared with those abroad. Our hospitals and dispensaries gave advantages which could not be obtained abroad, particularly as to the matter of having beds for patients after throat operations. It was the rule abroad for the general surgeon to perform the larger operations on the nose and throat. This had been impressed upon him, especially during his stay in Vienna last summer. America was second to none in the matter of discoveries and advancement in rhinology; perhaps with the exception of sinus work our work here is superior to that seen abroad. To the questions propounded in the paper he would answer:

1. He had obtained the greatest success from the relief of obstruction. He had experienced the most trouble in relieving discharge.

Dr. R. C. Myles said that he had achieved the greatest success from the realization of the fact that relief of intra-nasal pressure and admission of air would give the greatest relief to the patient. The greatest need seemed to him to be a proper understanding of the action of the mucosa of the nose and the sinuses regarding the discharges which at present resist all efforts to control them. It

was probable that in the examination of pathological tissues and products substantial progress would be made. For example, if cases of malignant disease could be detected and treated quite early, the results would certainly be very much better than they are at present.

**Report of a Case Illustrating the Importance and Possibilities of the Early Recognition and Treatment of Malignant Disease of the Larynx.**

Dr. W. Kelly Simpson read a paper with this title and reported a case of a male, forty-four years of age, whom he had first seen on September 22, 1896. There was given a history of progressive hoarseness for the previous two or three weeks.

Dr. Wendell C. Phillips said that two years ago he had presented to the section what had been apparently a papilloma of the vocal cord, yet microscopical examination had shown it to be a true epithelioma. That man had been operated upon, and when seen recently he was in perfect health. With the one vocal cord he was able to speak distinctly enough to be heard in a room of fair size. This was but another instance illustrative of the importance of early diagnosis.

Dr. Charles H. Knight said that, given a unilateral lesion of the larynx in a patient past middle age, with a husky voice, the presumption was that the disease was malignant. Dyspnea, dysphagia, pain, hemorrhage, glandular infiltration are rather late symptoms, and when present usually leave no doubt as to the nature of the condition. He recalled having seen a case about one year ago in which the diagnosis of epithelioma had been confirmed by the microscope. A preliminary tracheotomy had been done, and the relief had been so great that the man left the hospital without submitting to the radical operation. When seen recently the trachea tube had been removed, and his voice was much better—indeed, the evidence of malignancy was by no means marked at the present moment, in spite of the microscopical diagnosis that had been made. Dr. Knight said that he was uncompromisingly opposed to complete laryngectomy. When malignant disease of the larynx had progressed to a degree necessitating such radical procedure, the condition is well-nigh hopeless. The risks of the operation itself and the chances of recurrence are undeniably greater the more extensive the disease. In certain cases of circumscribed disease he would advocate a laryngo-fissure, with free exposure, and removal of the parts affected if the framework of the

larynx were not involved. On the other hand, the possibilities of endolaryngeal surgery must not be forgotten. B. Fränkel had reported nine cases treated by the cutting forceps and snare with five remarkable successes, one of his patients being still alive after a lapse of fifteen years.

Dr. Wright said that he had made a pretty positive diagnosis of benign papilloma in Dr. Simpson's case. Microscopists showed a tendency to make a diagnosis of malignancy, because the border line between epithelioma and stroma were confused. Personally he had never felt justified in making a diagnosis on such grounds; he wanted to see the cells already growing in the lymph spaces. His refusal to make a diagnosis of malignancy in such cases as these had served him well in a number of instances. It was a very serious matter to make a positive diagnosis of epithelioma, particularly when the growth involved the larynx. Even tracheotomy was a menace to life. Frequently the microscope would fail one, and occasionally it would deceive. In his opinion, the larynx presented the most favorable spot for the eradication of malignant growth, because the presence of a new growth on the vocal cords gave rise to hoarseness and led the person to seek advice quite early. In these cases every means should be exhausted to make the diagnosis at once. Where proper treatment was instituted early the statistics were already very encouraging. He regretted to have to differ with Dr. Knight regarding total laryngectomy, yet he believed that where the disease was still confined to the larynx, even though on both sides, it was a proper case for operation unless the patient was in an extremely bad condition. He would admit that the statistics were bad, but such a procedure offered the only hope of prolongation of life and alleviation of suffering.

Dr. W. Kelly Simpson said that our hope was chiefly in the early recognition of the disease, and the larynx certainly offered prospects of success in this line. He was absolutely opposed to total extirpation of the larynx. He had been a party to four extirpations of the larynx within a comparatively short period, and all of these patients had succumbed within a week from foreign body pneumonia. These operations had been done by experts.

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#### ERRATA.

On page 99, February LARYNGOSCOPE, second line from the bottom: "would cause an acute iritis" should be: "would cause infection."



## THE LARYNGOLOGICAL SOCIETY OF LONDON.

*Fifty-Third Ordinary Meeting, December 1, 1899.*

F. DE HAVILLAND HALL, M.D., President, in the Chair.

### **A Diagnostic Mistake.**

By Sir Felix Semon. On October 18, 1898, I was consulted by Mr. A. W., æt. thirty-nine, on account of soreness of the throat on the right side, about the level of the larynx, limited to one definite spot. He also stated that his voice had become gruff, and that swallowing, particularly of his saliva, was somewhat inconvenient. He had not brought up any blood and stated that he had not lost flesh.

On examination the pharynx was healthy, but the right vocal cord was fixed in about the cadaveric position, and the mucous membrane over the right arytenoid cartilage and the adjoining portion of the plate of the cricoid was considerably tumefied. There was no definite evidence of new growth and no ulceration. On phonation the left cord crossed the median line.

Externally there was general fulness of the glands below the anterior belly of the sterno-mastoid muscle, and this region was more tender on pressure than the corresponding part on the left side. There was a somewhat indefinite history of a chancre many years ago, apparently not followed by any secondary symptoms, although the patient had never been properly treated for it.

I gave him iodide of potassium in ten-grain doses for a fortnight, after which time I wished to see him again.

On the occasion of his second visit no improvement was noticed; on the contrary, the laryngeal tumefaction had increased, and the glands on the right side of the neck were distinctly larger and harder than they had been before. The patient also complained about increased pain in swallowing, sometimes shooting into the right ear. The iodide of potassium was increased to twenty grains three times daily, and the patient was told to come again in a fortnight's time.

When he saw me for the third time, on November 18th, matters were again worse than before. Still no ulceration was visible in the larynx, but the tumefaction had increased, and he was now very hoarse. The pain in swallowing had also become worse, and there was more swelling of the glands in the anterior triangle than before.

It seemed practically certain that one had to do with infiltrating malignant disease of the larynx. The removal of a fragment for microscopic examination was impossible owing to there being no distinct projection, but only general tumefaction.

As the question of operative interference became urgent, I sent the patient to Mr. Butlin for an independent opinion. Mr. Butlin shared my conviction that the disease was malignant, as also, I understand, did Dr. StClair Thomson, whose independent opinion the patient sought.

Although, on account of the extensive glandular swelling in the neck, I did not think the case a very suitable one for radical operation, still I felt it my duty to lay the alternatives of letting matters go on or attempting a radical cure before the patient, who decided in favor of operation.

I had a consultation with Mr. Watson Cheyne, who also did not consider the case a favorable one; but felt sure that if any radical operation were attempted at all, it ought to be complete laryngectomy. The patient consented to this.

On November 26th, in the presence of Dr. Lambert Lack and of myself, Mr. Watson Cheyne commenced the operation. In making the initial incision for tracheotomy, he came at once across an enlarged and apparently infected gland, in the middle line, quite distant from the region in which one would have previously anticipated that infection might have taken place. Other enlarged glands were detected immediately afterwards, which seemed to come through the crico-thyroid membrane. Tracheotomy having been performed, and a cut joining the tracheotomy incision having been made parallel to the border of the lower jaw, a number of small glands, apparently infected, became visible immediately, almost along the entire line of the incision.

Under these circumstances I urged that it was hardly worth while going on with the more serious operation originally contemplated, and Mr. Cheyne agreed with this view. The operation was therefore abandoned, but the tracheotomy tube left in position. So far as one could judge with the naked eye, the glands appeared epitheliomatous; unfortunately no microscopic examination was made.

The patient quickly recovered from the tracheotomy, and returned home a fortnight after the operation.

On October 24th of the present year, Mr. W., whom both Mr. Cheyne and I had supposed to have long since succumbed to his illness, suddenly called on Mr. Cheyne, looking very well, and

saying that he had been gaining flesh and strength. He told him that the glands in the neck had continued to enlarge after the operation, but had gone down a month or two afterwards. He had been taking "Clay's Mixture" (a preparation of Chian turpentine). His voice was still somewhat hoarse, but strong. He was still wearing his tube, but wanted to have it removed, if possible, this being the reason he had gone to see Mr. Cheyne. There was no difficulty in breathing without the tube, and the difficulty in swallowing had entirely disappeared. Nothing in the shape of glands was to be felt in the neck.

Mr. Cheyne wished me to see the patient with him, and a consultation took place on October 27th of this year.

The patient looked better than I had ever seen him before, and stated that he had gained thirteen pounds in weight since last year. His voice was good and strong; he wore the tube with de Santi's speaking apparatus. No glands could be felt externally, the right vocal cord was still fixed as before, but the tumefaction on the right side of the larynx had quite disappeared.

I put this case on record because it seems to me to teach the important lesson that, even under circumstances such as I have described, and which practically seemed to leave no doubt as to the nature of the disease, a number of experienced observers may be mistaken, unless indeed it be assumed that the disease had after all been epithelioma, and that it had been cured by Chian turpentine.

What the real nature of the disease was can even now, I think, hardly be stated with absolute certainty. What seems most probable, however, is that, after all, there had been a syphilitic perichondritis of the larynx, in the course of which an extensive but purely inflammatory swelling of the cervical glands occurred, and that whilst the laryngeal affection for some unknown reason had not yielded to the iodide, later on it had spontaneously subsided, followed by reduction of the glands to their normal size. Other causes, such as a so-called "idiopathic" or tubercular perichondritis, do not seem to come into question here.

The President expressed the opinion, which he was sure was unanimous, that Sir Felix Semon had done a very kind thing in bringing this case before the Society; an example which they might all follow with advantage, for they certainly learned more from mistakes than from anything else. As regards the cause of the great improvement, the man himself was firmly convinced that it was due to his mixture. Chian turpentine had a reputation at one



time, and there might after all be something in it. It reminded him of a similar diagnostic mistake in a different part of the body. He had a clergyman with chronic jaundice in the Hostel of St. Luke. His colleague, Mr. Wm. Rose, and he proposed to the patient that he should be examined surgically, to see if the obstruction could be removed. Mr. Rose accordingly opened the abdomen, and found a hard mass which he regarded as malignant disease of the liver. He (the President) was present at the operation and agreed with him. The patient was sewn up, and left the hostel in two or three weeks. Six months later he wrote to say he was completely well and had remained so since the operation. There is another example in which an incision is followed not immediately by improvement, but improvement some time later; he referred to tubercular peritonitis. He would therefore suggest that possibly the incision in the neck had something to do with the improvement.

Mr. Butlin said: I saw this patient in consultation with Sir Felix Semon, and came to the conclusion that the disease was probably malignant, not so much on account of the appearance of the larynx as because of the enlarged gland at the angle of the jaw. It is a very unfortunate circumstance that the glands which were taken out were mislaid, so that no microscopic examination of them was made; for we very much need more knowledge of the real nature of these diseases which disappear spontaneously, and which yet have many of the characters of malignant disease. It is, of course, almost certain, but it is not actually proved, that the disease in this case was not malignant, and that the diagnosis was erroneous. As to the mere error in mistaking an innocent affection for malignant disease, I have seen that mistake made so frequently by the best surgeons that I have long ceased to think seriously of it. And in many of the cases the disease has been so situated that it could be easily handled and closely examined. What wonder, then, if errors of diagnosis are made now and again in regard to tumors of the larynx which cannot be reached with the fingers, and which are only seen in the distance in a looking-glass. The wonder is, not that mistakes of diagnosis are occasionally made, but that the diagnosis is so frequently correct. I suppose no disease is so frequently mistaken for malignant disease as syphilis; and I have often said that iodide of potassium has cured more reputed cancers than all the quack medicine in the world.

Dr. StClair Thomson said it might interest the members if he read his notes of this case, as the patient consulted him a little

over a year ago, and as he did not mention that he had been under the care of any colleague the notes had the value of being uninfluenced by any suggestion. He found on the 19th of November, 1898, that the patient was slightly hoarse, had slight dysphagia, and no cough but some irritation in the throat. There was an enlarged hard gland below the right maxillary angle. The laryngeal mirror revealed a tumor of the right arytenoid, irregular, not ulcerating, concealing the greater part of the glottis, but the right cord on phonation was evidently fixed. The left cord moved easily. There was no loss of weight; no history of lues. The heart and lung sounds were normal. The patient was advised to take iodide and mercury for a week, when the question of operation would have to be considered. The patient then withdrew from Dr. Thomson's study, and the patient's brother proceeded to show such an intimate acquaintance with thyrotomy, iodide of potassium, extirpation of the larynx, etc., that he was charged with having seen other medical men about his brother. He confessed that the patient had been under Sir Felix Semon's care for the past five weeks, and that he had also seen Mr. Butlin. He was thereupon advised to return to their care and be guided by their advice.

Dr. StClair Thomson had not seen the patient again until he was shown at the meeting. In connection with this curious case, Dr. StClair Thomson said he would venture to refer to another, as it was not probable that he would be able to bring it before the Society. It was that of a poor professional man, æt. forty-eight, who was sent to him for loss of flesh, and dysphagia of three or four weeks. The left arytenoid region was occupied by an irregular, dull red growth, with white necrotic-looking patches on it, something like the snowdrifts in the hollows of high mountains. The speaker believed that Sir Felix Semon had referred to unusual snow-white appearance of tumors as pointing strongly to malignancy. Gleitsmann had also referred to the very white appearance in a laryngeal growth of unusual character. In Dr. Thomson's case there was much pain and discomfort from the constant tendency to swallow mucus. The cord on the same side was partially hidden, but was seen to move, while the right cord was normal. A gland was felt to be slightly enlarged on the affected side. There was no specific history. Under these circumstances a very gloomy prognosis was given, and indeed the patient's attendant in the provincial town where he lived was written to to be prepared for tracheotomy. Happening to be in the same town a month later Dr. Thomson had asked to see the patient, and found his voice

clear, his swallowing easy, and the growth entirely disappeared with the exception of a slight thickening of the left aryepiglottic fold. The cords were clear and moved freely. This improvement had taken place without the administration of any antispecific, or any particular line of treatment.

Mr. Spencer asked, respecting the two enlarged glands seen on the crico-thyroid membrane, one on each side of the middle line, were these glands frequently seen? He had seen the two glands enlarged in an undoubtedly syphilitic patient, who had first been treated by iodide of potassium and mercury, but who had afterwards to be submitted to thyrotomy in order to clear out the interior of the larynx. These glands might have been considered malignant to the naked eye had not the diagnosis of syphilis been certain.

Sir Felix Semon, in replying, said, with regard to the remarks of the President, that he also had seen cases of tubercular peritonitis get infinitely better, although not entirely cured, after opening the abdomen. He hardly thought, however, that such an explanation would apply to the present case, the less so, as only a very small number of enlarged glands had been exposed to the air in the course of the operation. He certainly was not a believer in the efficiency of Chian turpentine in cancer. With regard to Dr. StClair Thomson's observation, he begged to disclaim all responsibility for the description of certain forms of laryngeal cancer as similar to a "snowdrift." What he had said in reality was: that if one met with a growth of particularly snow-white color, which at first sight looked like a papilloma, but the eminences of which were not nearly so bulbous and rounded as in papilloma, but *sharply pointed* like grasses, that such an appearance was extremely suggestive of malignant disease. With regard to Dr. Spencer's remark, he thought glands existed near the crico-thyroid membrane on both sides of the trachea.

#### **Case of (?) Myxofibroma of the Post-Nasal Space.**

Shown by Dr. FitzGerald Powell. The patient, a boy æt. seventeen, states that he always had good health until four years ago, when he began to sleep badly at night, and as soon as he went off to sleep he was awakened by a feeling of suffocation. He had also at this time attacks of free bleeding from the nose and mouth, which occurred about twice a week. This got gradually worse. Two years ago he went to St. Bartholomew's Hospital and was an "in-patient" for six weeks. He states he had a swelling in his throat



which was lanced, but not otherwise dealt with. For over two years he has been unable to breathe through his nose. The growth grew pretty quickly about two years ago, but the patient does not think it has grown of late. Since the nose has been completely blocked he has not had any bleeding, but has suffered from great drowsiness, and has had incontinence of urine for two years.

On examination the naso-pharynx is seen to be full of a somewhat soft reddish-white growth, resting on the soft palate and pushing it forward, but not extending below the free edge of the palate. It is lobulated, movable, and is free posteriorly and at each side.

On pushing the finger along the front of the growth it appears as if its point of origin can be felt. It seems to be firmly attached to and to be continuous with the posterior end of the septum, which appears to be pushed to the left.

The right choana is roomy and filled with a prolongation of the growth, which can be seen from the front.

Dr. Herbert Tilley thought the growth was of a sarcomatous nature. It was soft, very vascular, with an extensive attachment, points which he had been enabled to determine satisfactorily by examining the growth with the finger in the post-nasal space. He advised removal, and in view of the difficulties which might be encountered at the time, especially free hemorrhage, a preliminary laryngotomy or tracheotomy would be advisable. The soft palate should then be divided, and the growth fully exposed to view, so that there could be no difficulty in dealing efficiently with its attachments, and the whole treatment would be rendered easier.

Mr. Spencer did not think this case malignant, but some of these growths tended to burrow extensively outward into the neighboring sinuses and fossæ. In a recent case he had found such a growth extending outwards behind the upper jaw into the temporomalar region and cheek. It had been successfully removed from the face by cutting away the outer wall of the nose and antrum without disturbing the orbital plate or the alveolar border and hard palate. He did not see the necessity of tracheotomy if the parts were well exposed, a sponge drawn upwards into the naso-pharynx, and the patient well propped up.

Dr. Scanes Spicer said, as far as one could see from a cursory examination, this was not likely to be a malignant tumor. He had seen many similar cases, which were like modified polypi. A more careful examination was necessary, and, in his opinion, the growth should be removed by means of a snare. He called attention to

the large space between the soft palate and the spine, which would render possible almost any manipulation without dividing the palate in this case. He agreed with the name the exhibitor had given to the case—myxofibroma.

Mr. Butlin said: The tumor in this case, from its large size and red surface, appears to me to be probably a fibroma, and may probably be removed with safety. I have had a considerable experience in the removal of these post-nasal tumors, and have long since come to the conclusion that by far the safest and most certain method is to divide the soft palate and the soft parts of the hard palate in the middle line, and cut away the bone of the hard palate until the tumor is thoroughly exposed. I am very much opposed to temporary resection of the upper jaw and other methods practiced through the nose. Nor do I find it necessary to perform tracheotomy. The patient should be laid on his side, with the head forwards and low, the mouth well opened with a gag, and the light reflected from a head lamp or mirror. When the surface of the tumor has been thoroughly exposed, and its attachments have been ascertained, it can be freely cut out with scissors, chisel, and bone forceps. The hemorrhage is often very severe in such cases, but it can be arrested by plugging with gauze if it does not cease spontaneously. The removal of the tumor in this manner is not likely to be followed by recurrence of the disease.

Mr. Symonds said he thought that in a great many of these cases it was unnecessary to perform so large an operation as that proposed. He thought in the great majority of young people these fibromata could easily be removed from the mouth, while the smaller ones could be extracted through the nose. He had on several occasions dissected them from their adhesions by the finger introduced from the naso-pharynx, and sometimes from the nose at the same time. While the hemorrhage was for the moment smart, he had never encountered any difficulty in arresting it immediately by a plug in the naso-pharynx, this plug being removed before the patient left the table. He thought the hemorrhage in this case did not indicate any special vascularity. He had noted that there was not uncommonly an adhesion between the tumor and the pharyngeal wall, which bled freely on being torn. In recent instance this hemorrhage led a surgeon of distinction to abandon a case which was successfully dealt with in the manner described. He would, therefore, reserve the larger operation for those cases where the tumor grew into the neighboring fossæ. He would call attention also, on

the point of recurrence, to the fact that the mass removed on the second occasion might be a growth from a considerable mass left behind, and yet be of a simple nature. In one such instance he had at a second operation removed a process from the sphenoidal sinus.

Dr. Bond recommended that the growth be attacked through the mouth, which would not be difficult. The soft palate should be split, and thick pieces of silk should be passed through the sides of the palate and used as retractors, so as to afford a good view of the whole thing before chiselling away part of the hard palate, if that should be necessary. He was a strong believer in laryngotomy in operations on fibroids and sarcomata in the naso-pharynx, and recommended that a small sponge, fixed on the middle of a piece of tape, should be pulled down into the top of the larynx. Thus ample room was afforded the operator in the mouth and pharynx; he was not incommoded by sponges or chloroforming impedimenta; the chloroformist could do his work at ease, and any severe hemorrhage could be readily treated. The laryngotomy wound was a trivial one, and healed in two or three days.

Dr. StClair Thomson referred to a paper by Doyen, who had operated on a considerable number of these cases, and who had come to the conclusion that they should be attacked from the mouth. Doyen's great point was that the operator should push through quickly with the removal, regardless of the abundant hemorrhage, for the latter ceased rapidly as soon as the growth was completely detached. For the operation itself specially adapted raspatories were advised. Dr. Thomson also suggested the adoption of the Trendelenburg position for operations of this character.

Dr. FitzGerald Powell, in replying, said he was glad his case had given rise to such an interesting discussion, and he thanked the members for the remarks they had made and for the information he had derived from them. In connection with the treatment to be adopted, he thought the first point to be settled was as to the character of the growth; was it a pure fibroma, a sarcoma, or, as he believed, a myxofibroma? If the latter, its presence should not be attended with such serious consequences, and it was not so prone to invade the antrum, orbit and other parts as the pure fibroma or sarcoma. It was softer and grew more rapidly than the fibroma, but not so rapidly as the sarcoma. So far as he could make out it was not attached to the "basi-occipital" bone. His own feeling with regard to the operation was that it would most likely be successful, and his intention was to do a preliminary laryngotomy



then split the palate and examine the tumor and its attachment thoroughly, and if necessary, lift the periosteum from the hard palate and chisel away as much of it as was required to expose the origin and facilitate its removal. He hoped to show them the growth at a later meeting.

### **Case of Recurrent Papillomata of Larynx.**

Dr. Bronner (Bradford) showed sketches of a case of recurrent papillomata of the larynx before and after the local use of formalin. A man of forty-nine had been treated for papillomata for several years, and a large number of the growths had been removed by forceps every two or three months. Various local remedies had been tried. A formalin spray was used for three months, and the growths had to a great extent disappeared, and there had been no recurrence during the last nine months. The spray was now used only one day in the week.

The papillomata were large, finely divided, of cauliflower appearance, and sprung from the vocal cords, ventricular bands and interarytenoid fold. They frequently gave rise to severe attacks of dyspnea. After the use of formalin the papillomata became much smaller and round; the finely pointed excrescences had disappeared altogether. The ventricular bands were nearly normal, but the vocal cords were still irregular and thickened.

In reply to Dr. Dundas Grant.

Dr. Bronner said among other applications he had used salicylic acid, but it had not the slightest effect.

Dr. Bond asked the strength of the sprays used.

Dr. Bronner replied that he began with sprays of the strength of 1 in 2,000, but gradually increased this till he employed a solution 1 in 250 or even stronger. He would like to know if any other members of the society had had any experience of formalin.

### **Case of Acute Ulcer of the Faucial Tonsil.**

Shown by Mr. Wyatt Wingrave. Married female, æt. thirty-two, was seen on Tuesday, 14th inst., when she complained of sore throat and painful swallowing of three days' duration. On examination a single ulcer about the size of a shilling was seen on the right faucial tonsil. The outline was sharply defined, edges red, while the base was of a grayish-white color, and the slough was readily removed by throat cusps, exposing a rough mammillated surface. The surrounding tissues were apparently normal. There was but very slight constitutional disturbance, temperature being 100.2°. There was no history of syphilis, but she had lost her

father and one sister from consumption. Two days later the ulcer was unchanged in appearance, and her only trouble was constipation of the bowels. On the 21st inst. the ulcer had quite gone, leaving a ragged depression in the tonsil.

Scrapings were examined and showed mono- and multinucleated lymphocytes, free epithelial squames, streptococci, staphylococci and numerous slender rods which stained faintly with methyl blue. There was no tubercle, nor Klebs-Löffler bacilli. The history, clinical signs and the microscope having enabled one to exclude syphilis, diphtheria and tubercle, it was diagnosed as acute ulcerative tonsillitis, since it conformed in all respects with the classical description of Moure.

Mr. Lake exhibited a case two years ago, and described a special braded form of bacillus as predominating. In this instance the slender pale staining rods were the most numerous.

#### **Case of Paresis of Soft Palate.**

Shown by Mr. Wyatt Wingrave. A married man, æt. thirty-four, had complained of pain and a sense of constriction in his throat for four weeks, and of a change in his voice of one week's duration.

He stated that he had syphilis fourteen years ago, and had enjoyed fair health till a month ago, when he became short of breath, had attacks of giddiness and headache occurring frequently. He noticed that he was gradually losing control over his bladder, and his knees gave away. Later still food returned through his nostrils and his voice became nasal. Deglutition was painful.

On examination the soft palate was markedly paretic, and he evidently swallowed with difficulty and could not pronounce his gutturals. The vocal cords were normal in color and texture, but abduction seemed sluggish. Although the eyeballs were somewhat prominent, paresis of the ocular muscles was not observed, nor of the facial or lingual. Sensation and reflexes were normal.

He was at once ordered five-grain doses of potassium iodide, and in the course of three weeks has shown marked improvement, although the palate is still paretic and his voice still somewhat nasal in quality. Deglutition is painless and normal.

The President said the patient had had some difficulty in swallowing, together with a very sore throat, and as diphtheria seemed to be excluded by the absence of the knee-jerks, he would suggest that it was a local neuritis due to the inflammatory condition of the patient's larynx.

**Growth of Granuloma of the Epiglottis for Diagnosis.**

Shown by Mr. Waggett. The case of a robust man of sixty, complaining merely of slight hoarseness of four months' duration, sent to the hospital for removal of a papilloma of the uvula. Laryngoscopic examination showed an epiglottis much curled, deflected to the right and concealing the vestibule of the larynx. A mammillated excrescence was to be seen projecting from the posterior surface of the epiglottis near its right border. This excrescence had been white in color at first, but had on a later examination appeared purple. The posterior part of the right arytenoid region could be seen red, swollen and immobile during phonation; no glands in the neck. No evidence of pulmonary tuberculosis. One brother died of phthisis. A history of gonorrhea. After fourteen days' exhibition of potassium iodide the patient expressed himself as better, but the laryngoscopic image was unaltered.

Digital examination was not feasible.

**Case of Esophageal Pouch.**

Shown by Mr. Butlin. I show here the fifth pouch which I have removed from the esophagus. Like all the others, it was situated at the junction of the pharynx and esophagus, and projected on the left side behind the esophagus. The symptoms had been noticed for about eighteen years in a female fifty-nine years old, and were the typical symptoms of pressure-pouch; return of particles of undigested food a day or more after they had been swallowed; escape of gas and food on pressure; the absence of wasting, and the impossibility of passing a bougie further than about nine inches from the teeth. There was no actual bulging in the neck. The operation presented peculiar difficulties on account of the large size of the pouch and consequent deviation of the course of the esophagus. On this account it was exceedingly difficult to pass an instrument into the stomach, even when the pouch was exposed in the neck, separate from its attachments and drawn upwards. This was, however, accomplished before the pouch was cut out.

The patient is now convalescent. The result of the five operations have been four recoveries and one death. I think, if I had had the experience of this case before I removed the pouch in the fatal case (the third in order), that I should not have lost the patient. I probably should not have proceeded to take the pouch out after exposing it, as I could not, even then, pass any instrument into the stomach. I look on that as a necessary preliminary to the safe removal of an esophageal pouch.



**Case of Double Abductor Paralysis under Treatment by Intramuscular Injections.**

Shown by Dr. Pegler. H. H., forty-four, married, and in very good general health, came to the Metropolitan Throat Hospital in June, 1899, complaining of loss of voice and some difficulty in breathing on inspiration, especially when hurrying. The voice was strident and disagreeable, but not aphonic. He admitted having had chancres at the age of twenty-two, when he was put through a mercurial course. On examination the vocal cords were seen in the cadaveric position, or, if anything, rather nearer the middle line, and they remained so on deep inspiration, the right cord abducting rather more than the left. On phonation they abducted slightly. A small conical projection was visible in the interarytenoid space. The biniodide was administered freely by the mouth; in about ten days the small growth disappeared, and the patient felt much benefit both as regards breathing and voice. About a month ago, following the example of my colleague, Mr. Lake, I began and have continued using intra-muscular injections of perchloride, 1 in 120. The cords now move if anything a little better, and the patient insists that there is a still further improvement in his voice. He prefers the injections in every way. About 20 mins. of the solution are injected into the buttock twice a week.

**A Case of Tubercle of the Larynx.**

Shown by Mr. Charters Symonds. The patient, a woman æt. forty-eight, came to the throat department at Guy's Hospital in October last, complaining of loss of voice. The left ventricular band and cord were occupied by a deep red, firm infiltration, extending the whole length. In the center was a depressed, irregular grey surface with raised edges. There was slight mobility of the cord and arytenoid, the appearances closely resembling those of malignant disease, more especially as the arytenoid was quite normal, and there was a total absence of the gelatinous infiltration commonly seen. At this stage the diagnosis of malignant disease presented some difficulty. To remove any doubt, a portion from the center of the ulcer was removed, and proved microscopically to be tubercular granuloma. Subsequent to this a history of hemoptysis some years previously was obtained. No disease was found in the lungs.

At the present time the appearances resemble closely those above described, except that the gap in the center is larger, on account of

the operation, and the cord is slightly more movable. The patient is pale and thin, and exhibits signs of pulmonary trouble.

The object of showing this case is to mark the resemblance of this form of tubercle to that of epithelioma. Recognizing that tubercular tumors may remain with little alteration for considerable periods in the larynx, and thus closely resemble malignant disease, I brought this patient to illustrate that point. I may add that in a recent case the solid tubercular growth was sufficient to occlude the larynx. In this case there was no ulceration, no expectoration, none of the gelatinous swelling; in fact all the appearances closely resembled carcinoma.

Dr. Clifford Beale asked whether there had been any obstruction of the larynx before the piece was removed? He thought that in cases of submucous tubercular infiltration without breach of surface, the swellings might remain for long periods without change or even with diminution. He had shown such cases at previous meetings, and in one instance, under observation for five years, the patient had died, and the larynx showed that there had been no real obstruction and no breach of surface. After removal of a part of the swelling a raw surface must remain, as in the present case, and if the patient happened to be bringing up tubercle bacilli in the sputum there was danger of reinoculation.

#### **Rhinolith.**

Shown by Mr. Charters Symonds. The specimen shows a calcareous laminated wall enclosing a cavity. When recent, this cavity was occupied by some soft grumous material, which may have been an old decolorized blood-clot or some inspissated mucus. It was removed from a boy *æt.* eleven. He had had a cold for a couple of months, and it was noticed in the later stages that the discharge was confined to the right side and had become sanguineous. The rhinolith was removed by a probe. There was no history whatever of the introduction of a foreign body, nor was there any evidence of old disease in his nose. He was the son of well-to-do parents, and therefore had not been neglected.

The object of exhibiting the specimen is, first, to show its peculiarities, and, secondly, to note the short duration of the symptoms caused by a foreign body which must have existed for some years. That this must be the common history in such cases is well known. In another instance, where a friable calcareous mass was removed, the symptoms were also of short duration, but here there was a history of the introduction of some rose leaves into the nose six years previously.

**Case of Tertiary Specific Ulceration of the Ala Nasi.**

Shown by Dr. Dundas Grant. The patient, a married woman æt. thirty-six, came under my care on the 23rd of the present month on account of an ulcer on the right ala of the nose of about two months' duration. The ulcer was about the size of a sixpence, and in the center there was a small portion of tissue which appeared to be true skin, but infiltrated. The ulceration furrow around this was deep and the edges considerably thickened and infiltrated.

It had first appeared six months previously to my seeing her as a white speck followed by spreading ulceration, but had healed up under the action of medicine, presumably iodide of potassium. In the fauces there were cicatricial changes such as would result from tertiary ulceration involving the loss of the uvula.

Six years ago the patient suffered from a sore throat which lasted some weeks, and was accompanied by a rash and by loss of hair; and four years later she had severe ulceration of the throat. She had two children, the youngest of which is thirteen years old.

Presumably this specific affection dates about six years back.

**Case of Tuberculous Ulceration of the Pharynx and of the Lower Lip.**

Shown by Dr. Dundas Grant. J. R., aged forty-two, who looked much older, came under my care on the 23rd of the present month complaining of sore throat and cough, which had gradually developed during the last three months. The voice was husky, deglutition was painful, and the cough was accompanied by the expulsion of a yellowish-colored sputum tinged with blood. On inspection there was seen on the left half of the palate, uvula, tonsil and anterior pillar an extensive ulcer, which on the flat surfaces was very shallow, but owing to its dipping into the irregularity of the part appeared in some places to be excavated. It was pale and the floor was covered with dusky greyish granulations from which exuded a slight moisture. The edges were not everted, and there was no induration on palpation. There was a fiery red areola. There were unmistakable signs of tuberculosis in both lungs, especially the right, and the diagnosis was made of tubercular ulceration. A scraping, however, was not found to contain tubercle bacilli, but the examination will have to be repeated. The glands are scarcely perceptibly involved. On the lower lip there is a deeper ulcer with soft, slightly edematous edges, the base being covered by a yellowish scab, the condition being probably a secondary focus of tuberculous inoculation.



**Case of Swelling about the Bridge of the Nose.**

Shown by Mr. Waggett for Mr. Stewart. A boy of eighteen, exhibiting indolent swelling about the bridge of the nose and edema of the skin in both orbital regions, a condition very similar to that of the cases shown at the November meeting. The swelling commenced two years ago, and had been under observation now for eight months with permanent improvement. There was a history of a kick on the nose three years ago, and several blows had been received since.

Iodide of potassium had effected no change, and the same was to be said of the continuous application of the ice bag for ten days.

**Ulceration of Alæ Nasi.**

Shown by Mr. Charles A. Parker. The patient was a female, æt. twenty-two, who had suffered from ulceration of the nose for two years. It affected both alæ, but extended more on the right side than on the left, and there was considerable loss of tissue.

The diagnosis rested between syphilis and lupus, and the opinion of the society was invited as to which of these two troubles was the cause of the ulceration. The patient had been on potassium iodide for three weeks, but had not taken it with any great regularity.

The President: It struck me as lupus or chronic tubercle.

Dr. Dundas Grant: I should say lupus decidedly.

Dr. Lambert Lack: I should say syphilis.

Mr. Parker thought it rested between syphilis and lupus, and treatment alone would settle the question.

**A Case for Diagnosis—A Boy æt. Ten Suffering from Aphonia.**

Shown by Mr. Roughton.

Dr. Pegler thought the boy could scarcely be considered aphonic, as he had succeeded in making him speak in a fairly audible though feeble voice. With reference to treatment, he thought the fault lay perhaps as much with the respiratory muscles as with those of the larynx. He therefore recommended a course of exercises in breathing, as the boy exhibited deficient chest expansion, and his vital capacity was probably much below par. The speaker was directing his attention to this point in similar cases at the present moment, and in an extremely obstinate case of functional aphonia now under his care he found the breathing much at fault, the vital capacity being 80 in place of 150. The hope was that by remedying this defect the loss of coördination between the muscles of respiration and phonation would be restored, and there seemed some

promise of its fulfillment. In the boy's case the same plan was worthy of a trial, as in any case the exercises could but be beneficial.

The President concurred as to the advantage to be derived from exercises such as those mentioned by Dr. Pegler. He started regular systematic exercises of the chest in a patient, whom, however, he had not seen since. Sir Felix Semon had suggested it was much more of a spastic condition than an ordinary aphonia. He (the speaker) did not think the air current was sufficiently large to put the vocal cords into proper action.

#### **Case of Tubercular Laryngitis in a Man æt. Thirty-One.**

Shown by Dr. FitzGerald Powell. When first seen on November 16th he complained of loss of voice and some difficulty in breathing.

The patient enjoyed good health until five years ago, when he caught a severe cold and lost his voice; he has regained it somewhat, but it has been husky ever since. Two months ago the voice got worse. Twelve months ago he had an attack of dyspnea, but otherwise has not felt the breathing to be labored, though at night he is seen to have considerable stridor.

On examination the general appearance of the larynx is rather red; the glottis is little more than a chink. On the right side the arytenoid is fixed, and the cord is obscured by the false cord, which is drawn over it and is ulcerated. On the left the vocal cord is broad and thickened, and is covered with granulations. In the posterior commissure, rather to the left, there is a pedunculated growth, which flaps to and fro on inspiration and expiration.

His family history is good, and I can find no history of syphilis.

Signs of cavity and consolidation are found in the lungs, though no bacilli were found in his sputum on examination.

On November 29th, when he was last seen, he was much better, and the breathing during sleep quite free from stridor.

The right cord can now be seen beneath the ventricular band, the left cord is smoother, and there appears to be much more breathing space.

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## CORRESPONDENCE.

*Editor THE LARYNGOSCOPE:—*

On page 97 of the February issue of THE LARYNGOSCOPE, Dr. James E. Newcomb quoted me as thinking the suprarenal capsule extract has a "distinctly anesthetic action." I would like to call the doctor's attention to an article of mine, "Clinical Observations on the Use of the Aqueous Extract of Suprarenal Capsule in Operations Within the Nasal Chambers," in the *International Clinics*, p. 15, vol. iv, series 7th, 1898. He will find there that I say it "does not produce of itself any anesthesia, unless used in combination with and after the local application of cocaine or eucaine and then only on mucous surfaces." In the *American Journal of Ophthalmology*, August, 1898, an article entitled "The Use of Suprarenal Capsule Extract in Minor Eye Surgery," also asserts "the principle upon which its physiologic action depends is the contractile power of the extract upon the arterioles—a vaso-constricting action. Locally, its action is purely one of contraction."

Again, in the *La Parole*, Paris, France, June, 1899; also *Journal American Medical Association*, May 20, 1899. In another essay upon this subject, "Aqueous Suprarenal Extract; Its Surgical and Therapeutic Uses," I made the following statements: "It (the extract) has absolutely no action on the skin, nor does it possess any anesthetic properties wherever applied." I feel sure from the above quotations that Dr. Newcomb could ever in the future misquote me and I trust he will readily see that I have never stated in any of my articles upon the suprarenal capsule extract that the extract had the slightest anesthetic properties when applied locally or otherwise. Thanking you for above space,

I am, sir, gratefully yours,

Houston, Texas.

JOSEPH MULLEN.

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## ABSTRACTS AND BIBLIOGRAPHY.

Arranged and Edited by  
**FAYETTE C. EWING, M.D., St. Louis,**  
with the collaboration of the  
**EDITORIAL STAFF.**

It is our purpose to furnish in this Department a complete and reliable review of the world's current literature of Rhinology, Laryngology and Otology.

Authors noting an omission of their papers will confer a favor by informing the Editor.

### I. NOSE.

**Remarks on the Pathology of the Nasal Septum**—JONATHAN WRIGHT—*Brooklyn Med. Journ.*, October, 1899.

Jacobson's organ is but rudimentary in the human being. It is situated about an eighth of an inch back of the column near the floor of the nose. It is lined with cylindrical epithelium, and though olfactory filaments are found among its cells, it is nevertheless functionless. According to Kisselback, the site of this organ in man is apt to be the seat of vascular swelling of the mucosa, and the origin of most of the nasal hemorrhages. In animals (like the sheep) this structure is very well developed.

The author calls attention to two masses which are often seen with the post-nasal mirror, and are located on each side of the septum near the posterior border where it articulates with the sphenoid bone. These swellings are frequently mistaken for bony projections, but are made up of erectile tissue. They often occur in patients suffering from hypertrophic rhinitis. After cocain is applied to these areas, the masses collapse and the space at this region is considerably increased. The close analogy in the anatomical structure of the erectile tissue of the nose and that of the genitalia is pointed out. Sexual excitement in man is often ushered in by sneezing. Vicarious menstruation is sometimes observed from the nares. "Masturbation in either sex is in adolescents a fertile cause of nose-bleed." "Bony cysts of the middle turbinals are seen almost exclusively in women during their sexual life."

True papilloma in the nose is nearly always found on the anterior part of the cartilaginous septum. Angriomatous growths are the most common of all benign growths of the nasal septum, and sarcomatous formations are frequently angriomatous.

Septal spurs and deviations are believed by the author to be due to hypernutrition, the result of an inflammatory process. This process usually starts in the mucosa covering the septum, and is frequently the result of some traumatism. Nature throws material along the area involved, and so produces the spur. LEDERMAN.

**The Importance of Nasal Breathing in Early Childhood**—R. E.MOSS—*Texas Medical Journal*, November, 1899.

Defective nasal breathing in early life is an etiological factor in many ear and throat affections of later life. The cause may gradually disappear as in the case of adenoids which tend to atrophy after puberty, but the pathologic effects may be permanent.

W. SCHEPPEGRELL.

**Hygiene of the Nose**—W. CHEATHAM—*American Practitioner and News*, December 15, 1899.

The nose has a most important function to perform in preparing the air for respiration, and it is therefore of the greatest importance that it should be kept in a normal condition. The douche is dangerous, but the spray is a useful adjunct in treatment.

W. SCHEPPEGRELL.

**Deviated Nasal Septum**—G. T. ROSS—*Canada Med. Rec.*, Dec., '99.

This is a report of a clinical lecture, in which an able résumé is given of the latest views and operations of Asch, Gleason, Bosworth and others.

GIBB WISHART.

**Rhino-Edema**—H. H. CURTIS—*N. Y. Med. Journ.*, Dec. 16, 1899.

Dropsy of the nose may be due to a paresis, brought about by over-excitation of the vasomotor nerves, or by a direct injury to the nerves themselves, either by pressure or disease. Wuinewarter has shown that vessels in an inflamed part are more permeable than in healthy tissue, as pictured by the infiltrated welt in scratching an urticaria.

The author mentions a case of dropsy of the arytenoids, in a patient who drank large quantities of water. The disease was cured by reducing the quantity of water imbibed. He believes that many cases of so-called winter hay fever are cases of bone rhino-edema. Three types of cases are seen. The anterior, the posterior and general erectile irritations. A constant symptom of this affection is an intensified desire to breathe through the nose, amounting almost to mania. The disease is sometimes associated with sexual perversion.

The treatment advised is the use of the rectal sitz douche, with the nozzle in the center of the cushion, by which the patient may wash the entire colon morning and night with four quarts of water in which is put a spoonful of sea salt and sodium bicarbonate. In no way can venous stasis in any part of the body be so quickly relieved, as this method, together with general systematic exercise, has no equal in benefitting the portal circulation. Cocaine affords no relief in this condition. Strychnine and digitalis are given internally, alternating hot and cold douches to the spine are also recommended.

M. D. LEDERMAN.

**Schleich's Method in Operations on Deviations and Ridges of the Septum**—E. BAUMGARTEN—*Archiv. für Laryngologie*, Band ix, Heft 3, 1899.

In dealing with these conditions the author has been greatly troubled by the hemorrhage which obscured the field of operation and often caused him to postpone the completion of the operation to a second or even a third sitting. Since adopting the infiltration method, however, he says that the operation is generally almost bloodless. The whole *terrain*e of the operation is plainly in view and the anesthesia is even more satisfactory than that obtained from cocain. The solution used is as follows:

Sodii chloridi.....	0.6
Aqua distil .....	100.0
Eucain .....	0.2

The author says that this mixture produces ample anesthesia as well as a very complete ischemia. He advises first rubbing the mucous membrane with a 10 per cent solution of cocain, in order that the needle prick may not be painful. He then introduces the needle and injects above and below the crest if necessary; injecting enough to raise the mucous membrane, all about the lesion and turn it white.

One drawback to this method is the fact that a more profuse hemorrhage is liable to occur later on, and as a consequence of this the author has come to tampon the nose carefully as a routine measure after each operation.

However, he thinks that this disadvantage is more than compensated by the freedom with which one can operate when the field of operation is not obscured by bleeding.

VITUM.

**On a Case of Nasal Hydrorrhœa**—URBAN MELZI—*Journ. L., R. et O.*, December, 1899.

This obstinate disease was seen in a woman, forty years of age, who for six years, dating from a confinement, has been affected with a continuous and abundant discharge from the left nostril of a perfectly colorless liquid. It prevented the patient from doing any work. This fluid did not cause any excoriation of the nose or lip. According to the patient it was without taste. The clinical examination proved it to be alkaline; specific gravity, 1.009; absence of albumen. Globuline appeared to be the more important albuminoid. No morphological element was seen under the microscope. No sugar or peptone was discovered, but abundant chlorides were precipitated by the silver test.

Numerous squeechiæ were seen in the nose from previous treatments. The sense of smell was comparatively unchanged. The only medication which afforded her relief was the introduction of a cotton pledget, moistened with a saturated solution of cocaine. This treatment she frequently applied herself. Though some benefit was derived from vibratory massage, the local and internal application of atropia, and the local application of a 5 per cent of protargol solution, the patient returned to *her original condition*.

M. D. LEDERMAN.



**Treatment of Nasal Stenosis Due to Deflected Septum, With or Without Thickening of the Convex Side—**JOHN J. KYLE  
—*St. Louis Med. Gazette*, December, 1899.

The importance of septum deflection as a possible cause of mental aberration is mentioned, and the author believes that the periodical examination of the eyes of school children should extend to the nose, throat and ear. Reviewing the different methods of operation, the author believes that that of Asch will be the most popular. He describes it, and advocates the use of suprarenal extract to prevent the profuse hemorrhage. The confinement to bed and long use of rubber splints, may, he thinks, detract from this method. EATON.

**Hay Fever: Its Resorts, Victims and Their Late Conventions—Present Status of the Disease—**JULIA W. CARPENTER, Cincinnati—*Lancet-Clinic*, December 23, 1899.

The essay gives an account of the last meeting of the United States Hay Fever Association at Bethlehem, N. H., in September. It was the twenty-fifth anniversary of that society, which was organized by Henry Ward Beecher and several distinguished sufferers. The consensus of opinion among the White Mountain resorters was that hay fever was not cured by "having their noses burned out." The germicide sprays had proved disappointing, but the writer cited a case in which sprays of the aqueous extract of suprarenal capsules (strength not mentioned) gave relief during the season, so that the patient was enabled to remain in New York city. The secretary of the association, a clergyman, claims that none of the thousands of hay-fever sufferers known by him has ever been cured.

The author inadvertently ascribes Oliver Wendell Holmes' cure for this disease to Mr. Beecher. The latter wrote to Dr. Holmes, asking if there was any cure for hay fever. Holmes replied: "Yes, gravel six feet deep." Carpenter believes that if this malady were as prevalent in Europe as it is in America "the problem would have been solved ere this" by the superior wisdom of European physicians.

In the discussion of this paper before the Cincinnati Academy of Medicine, B. Tauber mentions having treated many cases in Denver as well as in Cincinnati. His greatest success has resulted from tonic treatment, removal of hypertrophies and cauterization of sensitive areas in the nasal fossæ, correction of the uric-acid diathesis by lithium, hydriodic acid, etc., and the use of the "oily camphor-menthol sprays."

D. T. Vail called the essayist's attention to the fact that hay fever exists in Europe and England as well as in this country. Helmholtz was a sufferer, and wrote on the subject several decades ago. He thought he had caught the germ and had discovered the cure—quinine sprays. The first writers on hay fever were English physicians. Other speakers gave their views both favorably and adversely to nasal surgery and the uric-acid treatment in hay fever. BISHOP.

## II. MOUTH AND NASO-PHARYNX.

**A Case of Membranous Angina and Membranous Vaginitis of a Doubtfully Diphtheritic Nature Occurring in a Patient Convalescing from Scarlet Fever, and Associated with an Unusual Erythematous Eruption** — C. KILICK MILLARD — *Lancet*, November 11, 1899.

The questions of the nature of the rash observed in the case recorded, and the origin of the membranous exudation which occurred at the same time, are of the greatest interest. As to the membrane on the fauces, it is certain that in some cases of scarlet fever a membranous inflammation of the fauces occurs, not diphtheritic in nature. The case appears to be sufficiently interesting to justify recording. The clinical symptoms, apart from the peculiar erythema, were exactly those of faucial diphtheria following scarlet fever, with auto-infection of the vulva and vagina, and the improvement following the administration of the antitoxin and the subsequent albuminuria both help to confirm this diagnosis. On the other hand, it was certainly remarkable, if the case really was diphtheria, that no Löffler's bacilli could be found. The method followed in searching for them was the usual one, of which the author had had considerable experience, and he made repeated cultivations, about six or more, at different dates, some with actual membrane and some with swabs, but all with similar results. The constant presence, in almost pure culture, of *staphylococcus pyogenes aureus* suggests that it may have been the true cause of the condition, and may possibly explain the peculiar erythema. He has seen many adventitious rashes following scarlet fever, and many of purely septic origin, but has never seen anything quite like the one in question. The subsequent albuminuria may quite well have been a sequela of the scarlet fever and independent of the (?) diphtheria.

STCLAIR THOMSON.

**Aphthous Tonsillitis or Diphtheroid Sore Throat**—MARK H. O'DANIEL—*Georgia Journ. of Med. and Surg.*, Nov., 1899.

The clinical history of a case which was probably diphtheritic and not aphthous. No urinalysis or bacteriological examination was made.

W. SCHEPPEGRELL.

**Sarcoma of the Carotid Sheath ; Removal of the Growth, together with Portions of the Carotid Arteries, Internal Jugular Vein and Pneumogastric Nerve ; Recovery**—SCANES, SPICER AND STANSFIELD COLLIER—*Lancet*, August 5, 1899.

The description of this case could not very well be epitomized, and readers must therefore be referred to the original. It contains a valuable table of thirteen cases of tumor, in which operation involved sacrifice of all the structures contained in the carotid sheath.

STCLAIR THOMSON.

**Fibrous Tumor of the Pharynx—Sequel—**E. FLETCHER INGALS—  
*N. Y. Med. Journal*, December 16, 1899.

A supplementary report of a case seen some years ago as a fibrous tumor in the naso-pharynx of a boy thirteen years old. An attempt to remove the growth was made at that time through an external operation, but the hemorrhage was so great that not much of the growth was removed, and the operation had to be stopped.

The growth continued to increase until the right nostril was completely closed, and the right malar bone became very prominent. He lost sight in the right eye. No treatment had been given. In the course of a couple of years the boy began to breathe better, until the close of nasal cavity was quite full again. The right cheek is growing smaller, after a period of fifteen years.

On examination after this time, the fibrous growth which formerly occupied the nose for four years, had disappeared. The eye, though in appearance normal, is blind. There was a large opening into the sphenoid cells into which the growth previously extended.

M. D. LEDERMAN.

**Tuberculosis of the Pharynx—**C. F. THEISEN—*Journ. Am. Med. Assn.*, July 12, 1899.

Tuberculosis of the pharynx is a comparatively rare disease, occurring in only about 1 per cent of the cases of tuberculosis of the upper-air passages. It is usually, but not necessarily, secondary to tuberculosis in some other part of the body.

The combination of tuberculosis and malignant growths is mentioned.

Statistics are given to show the frequency of the tubercle bacillus in the tonsils and in adenoid tissue.

Two cases are reported illustrating the symptoms, course, termination and treatment of the disease.

ANDREWS.

**A Note on the Occurrence of Epithelial Pearls in the Tonsil—**  
HUGH WALSHAM—*Lancet*, April 29, 1899.

The late Professor Kanthack,\* in an interesting paper, called attention to the occurrence of epithelial pearls in the tonsils of human fetuses and new-born infants, and pointed out that they occurred as retentions and not as embryonic inclusions. Professor Kanthack, in a later paper, published in the *Journal of Anatomy and Physiology*, Vol. xxvi, brought forward weighty arguments against the pearls which are found in the mid-line of the palate, and in other places being due to inclusion products, as described by Mr. Bland Sutton in his lectures on Evolution in Pathology. The occurrence of these epithelial pearls in the tonsils of adults is not altogether rare, and while making some observations on the occurrence of tubercle in the tonsil the author met with three very good specimens in the tonsils of men aged twenty-seven, thirty-one and thirty-five years respectively. The occurrence of these pearls in

\*Kanthack, *Illustrated Medical News*, November 9, 1889.



the organ is of interest, because there can be no doubt that they are the origin of at least some of the so-called tonsil calculi. The accompanying illustrations show very clearly these interesting bodies. The center of these pearls shows no definite structure; it is only on carefully examining the periphery that we see that they are composed of horny, squamous, epithelial cells pressed tightly together. They bear a very close resemblance to the epithelial cell nests found in some of the epitheliomata. These pearls are clearly retention products, and cannot possibly be due to epithelial inclusion, as no fusion of epithelial surfaces takes place in the tonsil. Their occurrence, as before said; is not altogether rare, but these are the only three examples met with out of 150 post-mortem examinations of tonsils made with reference to this point. Professor Kanthack once informed the writer that since 1889 he had fairly often observed epithelial pearls in the tonsils at all ages. But in addition to these retention pearls we find epithelial accumulations in the adenoid tissue of the tonsil which apparently has not before been described. They are mostly to be found in the center of one of the closed lymphatic follicles, and have no connection with the epithelium lining the tonsillar crypts. According to Professor Retterer,<sup>†</sup> both the ectoderm and mesoderm take part in the formation of the tissue composing the closed follicles of the tonsil. He says the tonsil is formed by epithelial involutions and swelling of the mesoblastic tissue, then by the formation and detachment of terminal epithelial buds. The closed lymphatic follicles are formed by the formation round these buds of lymphoid tissue. As life advances this central epithelial accumulation disappears. Specimens of tonsils from young persons show these epithelial accumulations in the center of the follicles. They cannot, therefore, be regarded as either retention or inclusion products, but the writer thinks that they are produced by the normal evolution of the organ.

STCLAIR THOMSON.

<sup>†</sup>Retterer: "Origine et Evolution des Amygdales chez les Mammiferes," *Journal de l'Anatomie et de la Physiologie*, 1888.

**Surgery of the Tonsil**—THOS. F. NOLAND—*New Albany Med. Journal*, January, 1900.

Two conditions of the tonsil, the hypertrophic and the atrophic, are pathological. The hypertrophied tonsil by its pressure causes a constant irritation of the tissues of the throat and prevents the proper development and action of the palatal and pharyngeal muscles. Removal of the gland in this condition is demanded, if it projects beyond the palato-glossal fold.

The atrophied tonsil is equally deleterious by reason of the pressure of infection-retaining follicles filled by dried, decomposing secretions. The absorption into the circulation of this infectious material is a common cause of pains formerly called growing pains. Such follicles should be cleansed, split open and the ragged edges trimmed off.

DETWILER.

**Fibro-Lipomatous Tumor of the Epiglottis and Pharynx—E.**FLETCHER INGALS—*N. Y. Med. Journal*, December 9, 1899.

This growth occurred in a male, twenty-eight years of age. He complained of difficulty in breathing, speaking and swallowing.

On examination a large tumor was seen filling the laryngopharynx and apparently attached to the right two-thirds of the base of the tongue and to the right side of the pharynx. In attempting its removal with an ordinary polyp snare, armed with a No. 5 steel wire loop, the wire broke three times, so a uterine ecraseur, bent at a right angle, with a No. 8 piano wire, was employed. A number of pieces of the growth were removed, and the stump touched with the galvano-cautery.

The tumor was found to be attached to the upper portion of the right side of the epiglottis, the right pharyngo-epiglottic fold to the base of the tongue and to the right side of the pharynx. The microscopical examination revealed its structure.

The sequel of the operative treatment showed adhesions between the right side of the epiglottis and the pharynx and partly to the base of the tongue. No unpleasantness, however, was experienced by the patient.

M. D. LEDERMAN.

**Adenoids Neglected and some of the Results—M. H. GASTON—***Western Med. Review*, November 15, 1899.

The author enters an earnest plea for the early removal of adenoid growths. The family doctor, as the guardian of the health of the various members of his families, should be prepared to do this work, or at least should be competent to recognize the presence of the growths and send the child to a specialist.

D. W. DETWILER.

**A Death from Leukemic Infiltration of the Upper Air Passages—**ERNST HIRSCHLAFF—*Deutsche Med. Wochenschr.*, April 13, 1899.

At a meeting of the Society of Internal Medicine at Berlin, the author reported the following extremely interesting case. The disease, of course, belongs strictly to internal medicine, but the cause of death must be interesting to laryngologists especially,

The leukemia was pronounced and the patient had been under observation for some time. Suddenly the author was called to her as she was suffering from great difficulty in breathing. An examination showed the uvula enlarged to the size of the last joint of the thumb and of a snowy whiteness. The pharyngeal organs had often been examined before, but nothing abnormal discovered. The glistening snow-white discoloration of the mucous membrane spread into the pharynx under the examiner's eyes. In a few hours the left palatine arch was swollen to the size of the little finger. A little later the tonsil was involved. Soon a stridor developed, and the sufferer passed away with symptoms of laryngeal edema. The post-mortem, in fact, showed well-marked edema glottidis.

VITTUM.

### III. ACCESSORY SINUSES.

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**The Negative Air Douche as a Means of Diagnosis in Diseases of the Accessory Cavities of the Nose** — L. RÉTHI — *Wiener Klin. Rundschau*, October 22, 1899.

After a cursory glance at the ordinary diagnostic measures, the author speaks of the operative procedures, such as removal of the middle turbinal and exploratory puncture of the antrum. Many patients will not submit to these manœuvres when it is explained to them that they are to be done merely for diagnostic purposes.

In this case the negative air douche, as recommended by Seifort (see LARYNGOSCOPE, December, 1899, page 382), is often of great service. The author says that since he has begun to use negative Politzerization he is very rarely able to discover the presence of pus by probing when this new method has failed.

He advises that the negative air douche be made a routine measure in examinations, and that in no case should any operative procedure be undertaken before it has been tried. VITTUM.

**Cephalagia and Tic Douloureux from Accessory Sinus Affection** — S. F. SNOW — *Buffalo Med. Journ.*, January, 1900.

According to this observer it is generally conceded that there is no pain or neuralgia as a disease *per se*. He believes that in 75 per cent of cephalalgias, nasal disease or accessory sinus affections are the determining causes.

The condition of constant and severe pressure in these cases is sometimes due to an acute retention of mucus or pus, or due to a collection of polyps within the antrum, ethmoid or sphenoidal sinuses. A few cases are reported in which the pressure symptoms were relieved by intra-nasal treatment. In one of the cases the symptoms were suddenly relieved by the breaking through of a nest of small pale tumors in the upper nasal fossa, from the ethmoid cavities. Months of acute suffering were experienced before these polypoid masses burst their surrounding walls.

M. D. LEDERMAN.

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### IV. LARYNX AND TRACHEA.

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**A Report of Two Hundred and Seventy-six Intubations** — W. B. PUSEY — *American Practitioner and News*, November 15, 1899.

Of the cases intubated 48.5 per cent recovered. The most common accident that occurred was the pushing of the membrane down before the tube, but in one case only was it attended with serious results. In one case a tracheotomy had to be done.

SCHEPPEGRELL.



**Motor Laryngeal Disturbances** — GRABOWER — *Berl. Klin. Wochenschr.*, October 30, 1899.

The author is inclined to think that in some instances a diagnosis of paralysis of various laryngeal muscles is made, when a more careful examination would reveal the fact that the limited motion is the result of a mechanical hindrance. He cites a case of his own which seemed to be a paralysis of the right crico arytenoideus posticus with a secondary contracture of the right adductors. He, however, believes it to be a case of spurious anchylosis of the crico-arytenoid articulation. He gives his reasons in full, but it is necessary to read the paper at length to come to a clear understanding of his position. VITTUM.

**The Treatment of Syphilitic Stenosis of the Larynx by Intubation**—THOMAS C. EVANS—*Medicine*, December, 1899.

The author points out the advantages of intubation in chronic stenosis of the larynx over that of former methods of relief, like tracheotomy. It is superior in that no preliminary tracheotomy is necessary, if applied in time. The dyspnea is immediately and permanently relieved, the intubation tube dilating and divulsing the stricture, at the same time, by pressure, causing absorption of granulation tissue. The operation can be performed without shock or loss of blood, and with no danger from erysipelas, septicemia or pneumonia, and can be performed without an anesthetic.

The employment of the hard rubber tube is advised. STEIN.

**The Cause and Treatment of Removing Laryngeal Stenosis Following Intubation** — LOUIS FISCHER — *Medical Record*, December 2, 1899.

It is stated that this condition is primarily caused by forcibly pushing a tube into an edematous or infiltrated mucous membrane. O'Dwyer's observations led him to believe that the stenosis was due to using too large a tube in the hands of inexperienced operators.

The seat of the lesion which keeps up the stenosis is just below the vocal cords, in that portion of the larynx bounded by the cricoid cartilage. When the mucous membrane swells in this region the obstruction necessarily occurs towards the center, as the outside wall is cartilage. Consequently, to prevent traumatism, a small calibre tube should be employed. Granulations will also cause a recurrent dyspnea. Paralysis of the cords usually comes late in the disease. Tubes should be removed every three days to avoid irritation from calcareous deposits. These deposits will form only on metal and not on rubber tubes. If a tube has to be introduced more than twice, a medicated gelatin coating of a five or ten per cent alum solution is applied to the tube. The author has had good results from a ten per cent gelatin-ichthyol solution as a covering for the tube.

Specific stenosis is also mentioned, and is said to be always congenital. M. D. LEDERMAN.

**Laryngitis Secondary to Nasal Disease**—DUNDAS GRANT—*Journ.**Laryn., Rhin. et Otol.*, October, 1899.

In the chronic congestive conditions, local applications of astringents are recommended after the nasal irritation has been eliminated. A ten (10) per cent solution of the chloride of zinc in rose water is preferred. This can be applied by means of a brush or spray. Cocaine is to be applied before. Rest of the voice and errors in voice production must be corrected.

"When the mucous membrane is simply sodden, rapid subsidence takes place. Then the nasal condition is improved, and a local astringent is applied. If, however, the white swelling of the mucous surface indicates proliferation of the epithelium," the author highly recommends the application of salicylic acid in strengths increasing from one to five per cent, the following combination, *i. e.* :

Salicylic acid.....	5 to 25 grains
Rectified spirits .....	5 drachms
Glycerine .....	3 drachms

Before applying this formula, cocaine should be employed. This solution should be limited as much as possible to the part affected, which it rapidly bleaches. It must be used with precaution, as it is quite irritating. The greater amount of epithelial proliferation, the greater is the indication for the employment of salicylic acid in increasing strength. In cases without epithelial hyperplasia this remedy is contra-indicated.

Where the thickening is limited to the interarytenoid space, salicylic acid is particularly indicated and well borne.

The writer has applied this solution with good results in a case of recurrent papillomata of the larynx. A number of cases of other conditions of the larynx are reported.

LEDERMAN.

**Intubation in Private Practice**—J. TRUMPP—*Münchener Med.**Wochenschr.*, November 7, 1899.

The principal object of this paper seems to be the discussion of the question as to whether intubation is justifiable where continuous medical supervision cannot be exercised. In order to speak with authority, the author obtained the results of eighty-nine European and American physicians who had performed the operation at private houses where constant supervision by a physician was impossible. These men reported in all 5,468 intubations with 36 per cent of cures in the pre-serum period, and 81.98 per cent of cures when used in conjunction with serum. In these 5,468 cases only 13 cases of death by accident were reported. Two cases of death from obstruction of the tube, ten cases of auto-extubation and one case of suddenly recurring stenosis after extubation.

This extremely small percentage of accidents seems to show that intubation in private houses is justifiable, and the author gives a long list of conditions under which obstruction of the tube and auto-extubation may occur.

His final conclusions are as follows :

1. Every physician in general practice should strive to perfect himself in the technique of intubation as well as of tracheotomy.

2. Intubation is unequivocally demanded when there is immediate danger of suffocation and there is no time for tracheotomy; also if permission to perform tracheotomy is refused.

3. The physician is justified in performing intubation at a private house and without permanent medical supervision.

(a) If the patient cannot be moved to a hospital.

(b) If the relatives decide in favor of intubation after the comparative advantages and dangers of tracheotomy and intubation have been explained to them.

(c) If communication between the house and the physician is easy and the latter can reach the house within an hour of any accident.

(d) If all other precautions for the safety of the patient have been taken.

4. Intubation in private practice should be an early operation whenever possible, inasmuch as the results are the best where the patient's strength is still only slightly impaired and the local process not greatly developed.

5. Inasmuch as tracheotomy presents so many more difficulties than intubation in private practice, it should only replace the endolaryngeal method when the above-mentioned conditions cannot be complied with, or when intubation has failed to relieve, or where the presence of the tube has given rise to ulceration, or where the tube is repeatedly coughed up.

6. If tracheotomy is indicated, it should only be performed with tube in position.

VITTUM.

**Tubercular Laryngitis**—J. R. MCINTOSH—*Maritime Medical News*, November, 1899.

The remedies recommended are: Lactic acid, 10 per cent, applied on a cotton swab, and the strength of the solution gradually increased even up to 90 per cent; menthol in 20 per cent solution of olive oil or liquid vaseline. As sedatives: Cocaine, orthoform and morphia.

In the ensuing discussion, Dr. Walden reported a successful case of tubercular laryngitis where tracheotomy had been performed.

GIBB WISHART.

**Laryngological X-Ray Work**—WADSWORTH WARREN—*The Medical Age*, October 25, 1899.

The discovery of Professor Roentgen has accomplished less, possibly, in the field of laryngology than in any other branch of medical science. It has been of service along the following lines: In the detection of foreign bodies, or, rather, their accurate location; in determining the time of ossification of the cartilages of the larynx; in the diagnosis of intrathoracic growths, and in the early diagnosis of tubercular processes in the lungs.

ALICE EWING.



## V. EAR.

**Diminished Bone Conduction as a Contra-Indication for Ossiculectomy**—DUNDAS GRANT—*Journ. L., R. et O.*, October, 1899.

In chronic non-suppurative inflammation of the middle ear with fixation of the stapes, and some involvement of the contiguous parts of the internal ear, the removal of the outer ossicles is not likely to offer much improvement.

When, however, the outer ossicles are fixed and hamper the movements of a presumably or possibly mobile stapes, their removal is indicated on account of the hearing-power, apart from other and even weightier considerations. If, however, the ossicles are of functional value, they should not be removed.

Diminished bone conduction even in post-suppurative cases is a contra-indication. When hearing is so bad that the patient cannot follow his employment, it is justifiable to remove the outer ossicles and remains of the membrane, even though bone conduction is diminished.

LEDERMAN.

**Some Practical Remarks on the Anatomy of the Temporal Bone with Demonstrations**—EMIL AMBERG—*The Physician and Surgeon*, November, 1899.

The variations in the relationship of the various parts relative to disease of and operation on the ear are dwelt on at length. The importance of a large opening at the beginning of the mastoid operation is emphasized. The author prefers the chisel and mallet as the main instruments for operation, and decries the employment of a trephine as used by some for cutting out a plug of skin, to be followed by the use of a boring drill and dental bur.

STEIN.

**The Contagiousness of Acute Suppurative Inflammations of the Middle Ear**—M. LERMOYEZ—*Journ. L., R. et O.*, Dec., 1899.

According to this observer, acute otitis media suppuration is contagious. It is not an obvious and unavoidable contagion, but quite a possible transmission. This statement, however, does not apply to all forms of this affection. Seven cases are cited to corroborate the above opinion.

The contagion takes place through the naso-tubal route. It commences in a coryza, which may be so attenuated that clinically it passes unperceived.

The author's observations tend to prove the following opinion: *given the first patient affected with influenza complicated with otitis, any other influenzal patient put in contact with him will run a great risk of acquiring this otitic complication.* (Italics are the authors.)

He believes that otitic cases should be isolated.

M. D. LEDERMAN.

**A Study of Aural Vertigo**—LEWIS S. SOMERS—*Medicine*, January, 1900.

Vertigo consists of a symptom complex, of which the essential feature is the sensation of moving, or the appearance of movement of objects, when there is no real existence of such. It may be subjective or objective, and varies from a slight dizziness to utter inability to maintain the equilibrium. Any cause acting on the tension of the intra-labyrinthal fluid and disturbing its normal equilibrium will produce vertigo. This may arise from anemia, hyperemia, inflammatory changes in the middle ear, ankylosis of the ossicles, adhesion of the stapes to the oval window, or obstruction of the external auditory canal, as by cerumen.

Cerebral disease, disturbance of the function of the vestibular nerve, pressure on the auditory nerve, derangement of the eyes, disorders of viscera, and toxemia are also causes. Irritation of the labyrinth is an indispensable factor in the production of vertigo as is shown by the fact that it does not arise if the labyrinth is totally destroyed. This irritation may be found in all cases if carefully sought.

DETWILER.

**Deafness Due to Mumps**—Ed., *N. Y. Med. Journ.*, Dec. 16, '99.

In a short note upon this subject, referring to an article which had appeared in the *Gazette des hôpitaux*, it is stated that the pathogeny remains obscure, and most authors think there is a sanguineous effusion into the labyrinth. Treatment is of no avail as regards the power of hearing, but the vertigo may be benefited by the use of quinine. Dr. E. D. Spears, of Boston, however, believes that we may avert such a dismal sequel, by placing the patient in bed, and employing subcutaneous injections of pilocarpin. He thinks that many cases of effusions into the labyrinth can be and have been cured by this treatment.

M. D. LEDERMAN.

**Inflammation of the Middle Ear and Sequelæ**—THOS. McDAVITT—

*Northwestern Lancet*, January 1, 1900.

The tonsils are so frequently the gateway of infection to the middle ear that they should not be overlooked in any case and, if found at fault, should receive due attention. In the treatment of the middle ear, heat yields the best results in controlling the inflammation and pain. Cold is to be avoided because its continued use depresses the vitality of the parts to which it is applied. Should bulging of the drum membrane appear, he incises it at the most dependent portion. After paracentesis he avoids frequent syringing with water, occasionally applies peroxide of hydrogen, drying thoroughly afterwards, and insufflates an antiseptic powder that will not pack, as acetanilid, 25 parts and boric acid, 75 parts. If the mastoid becomes infected, he promptly removes all diseased tissue and makes free drainage for pus.

D. W. DETWILER.

**Inflation and Medication of the Middle Ear in Non-Suppurative**

**Otitis Media**—E. OLIVER BELT—*Maryland Med. Journ.*, December 30, 1899.

The author advocates the more common use of the compressed air apparatus with a nebulizer in preference to the other methods. As objections to the Politzer's method, he states, that children are frightened by it, and will not allow its use the second time. Elder people are shocked by its suddenness, and suffer strangulation from the water held in the mouth. The drumhead is sometimes ruptured, especially when drumhead is thinned by atrophic changes.

The principal objection to use of the catheter is the bruising or abrasions caused by the passage of same. The method advocated by the author is, viz.: the naso-pharynx is first sprayed with a modified Dobell's or similar solution, which not only cleans but reduces the turgescence of the mucous membrane, thereby enlarging the caliber of the nasal passages and Eustachian tube, thus making inflation easier. A pressure of from ten to twenty-five pounds is preferred in the compressed air apparatus. The air is passed through a globe nebulizer, where it can be medicated if desired, and the force and suddenness of the rush of air is modified by the elasticity of the rubber tubes through which it passes. The patient is directed to puff the cheeks out, the nose tip is placed in one nostril, and with a Davidson cut-off on the air apparatus, the air is allowed to enter one nostril and escape through the other. If the obstruction in the Eustachian tube is marked, a few drops of a 4 per cent cocaine solution applied by a cotton applicator will alleviate matters. One of the advantages by this method is, that by quickly opening and closing the Davidson cut-off, vibratory movements or massage can thus be given the drumhead and ossicles. Medication of the middle ear can be accomplished by placing the desired medicine in the Globe nebulizer or by direct injection of the medicated fluid through the catheter. The writer is opposed, however, to the use of injections of fluids into the middle ear, through the Eustachian tube.

E. D. LEDERMAN.

**Mastoiditis**—E. L. HOLT—*Journ. of Med. Science*, October, 1899.

Temperature is not a positive guide for the detection of mastoiditis, as it is not uncommon to have extensive inflammation of this process without much rise of temperature.

The author calls attention to those cases which could not be taken by the usual symptoms. Under these conditions (where the patient is subject to attacks of earache accompanied by chills and fever, but has gone on to resolution without any serious results) and the posterior and superior part of the meatus, next to the membrane is reddened and swollen, and tender to the probe, the mastoid should be opened. Where the latter symptoms exist, with true tenderness upon deep pressure, the writer has always been warranted in performing the operation.

LEDERMAN.



**Four Cases of Otitis Media**—VAUGHN PENDRED—*Lancet*, November 18, 1899.

The importance of early operation in cases of infection of the mastoid cells is generally recognized, and the cases recorded are very good examples of the benefit following a thorough operation. In the fourth case it is, indeed, difficult to account for the paralytic symptoms being on the same side of the body as the ear disease and the resulting disease of the brain, but it is most probable that there existed some undetected mischief on the right side of the brain. Another remarkable point in these cases is the presence of the fly in the ear of a boy in Case 3; it is not impossible that the sudden cessation of the discharge from the ear was due to a blocking of the aperture by the fly, or it is possible that it was the original cause of the disease of the middle ear. It is generally admitted that delay in operating on a patient exhibiting symptoms, however equivocal, of intracranial mischief and suffering from otitis media is unjustifiable. The above cases illustrate in a very striking manner the danger of procrastination, and the excellent results which are to be obtained by early "surgical interference." Cases 1 and 4 demonstrate that even with a free discharge from the ear very serious mischief may be occurring within the cranium, although the symptoms are not more striking than an attack of sickness, as in the child, or of severe headache, as in the man. The author is utterly at a loss in Case 4 to explain the left-sided hemiplegia, when the only demonstrable lesion of the brain was on the same side. There would appear in Case 3 (perhaps the most striking of the group) to be a causal connection between the fly and the ear trouble. The great cell extending upwards from the apex of the mastoid and displacing the lateral sinus is unusual, in the first place because this part of the bone, as a rule, consists of a honeycomb of small cells, and in the second place because the boy had not attained puberty, at which age the mastoid cells are described as developing. Case 2 was remarkable as demonstrating the great value of opening up the mastoid antrum for the relief of the pain of the middle-ear disease. Taken together, the cases show how ill-defined the symptoms are liable to be, the classical picture of earache with swelling over, and intense tenderness of, the mastoid process, and accompanied by sickness and fever, not being presented by one of the group in its entirety.

STCLAIR THOMSON.

**Osteoplastic Opening of the Mastoid**—DR. KÜSTER, Marburg—*Centrallblatt für Chirurgie*, October 28, 1899.

The outer ear is drawn sharply forward, and an incision is made close along its posterior border, beginning a little above the level of the external auditory opening. This incision passes downward around the tip of the mastoid and is then carried upward along the posterior border of the latter to the same level where it was begun. This U-shaped cut is carried down to the periosteum, which is then pushed aside with a raspatory and a shallow groove cut into the

bone with a chisel all along the incision. With a broad chisel, a thin plate of bone is then split off, beginning at the bottom. This plate is of course adherent to the soft tissues, and the whole skin-periosteum-bone flap can be turned upward, leaving the field of operation free.

In order to replace the flap nicely it may be necessary to bite off a little from its lower end so that a drain may be led from the cavity made by the operation to the outside. The author reports briefly nine cases operated on in this manner. He claims as the advantages of this method, little deformity, rapid healing and a good opportunity for the tampon in case the sinus or the dura mater are injured during the operation. VITUM.

### **Mastoiditis: The Importance of Early Surgical Treatment—J. F.**

McCaw—*New York Med. Journ.*, December 30, 1899.

In doubtful cases, the author regards the sagging of the postero-superior cutaneous covering of the external auditory meatus close to the membrana tympani as indicative of pus in the mastoid cells. In conclusion he states that:

(1) In threatened mastoid involvement and in mild acute cases the conservative plan of treatment should be first tried for at most a week or ten days, unless dangerous symptoms arise.

(2) Operative interference should be instituted (a) in acute cases where there is sagging of the postero-superior canal wall; (b) where the infection is of a virulent nature; and (c) in all cases complicating chronic otorrheas. LEDERMAN.

### **Mastoiditis — HILLARD WOOD — *Southern Practitioner*, November, 1899.**

The four indications for opening the mastoid cells, as laid down by Schwartze, are as follows: "In acute inflammation of the cells, with retention of pus, if edematous swelling, pain and fever do not subside after antiphlogosis and free incision. In chronic inflammation of the mastoid process with subacute (periosteal) abscesses or fistulæ in the mastoid. With a sound cortex of the mastoid, on account of cholesteatomata or purulent retention in the middle ear, which cannot otherwise escape, and with which symptoms arise showing that the life of the patient is in danger, or when a congestive abscess has formed in the upper posterior wall of the meatus. When the mastoid appears healthy and there is no pus in the middle ear, but when the mastoid is the seat of long-continued and unendurable pain which other means fail to relieve."

Schwartze's further advice not to operate when secondary meningitis, metastatic pyemia or brain abscess has developed, while conservative, is not so generally endorsed by good operators. In opening the mastoid cells the author prefers the chisel to the drill.

W. SCHEPPEGRELL.

**The Relation of Sinus Disease and Meningitis to Purulent Disease of the Middle Ear**—WALKER SCHELL—*Indiana Medical Journal*, December, 1899.

In a boy nine years old with an otorrhea and all the symptoms of a meningitis, the necropsy showed the sigmoid and in part the lateral sinus darkly discolored the dura, petrous and occipital bones. There was present a cerebro-spinal lepto-meningitis purulenta, external and internal, taking its origin of infection through the aqueductus cochlear. Large numbers of purulent cholesteatomatous masses were found throughout the petrous portion of the temporal bone and especially in the osseous labyrinth, where the semicircular canals were involved.

STEIN.

**Remarks Upon the Operative Treatment of Infective Thrombosis of the Sigmoid Sinus, Following Chronic Purulent Otitis Media**—Record of a Case Successfully Treated—A. YOUNG—*Glasgow Med. Journ.*, October, 1899.

The case here recorded is one of very considerable interest. The patient was aged two and one-half years and since an attack of measles six months previously, had suffered from a discharge from the left ear. Three weeks before the onset of serious symptoms, the discharge had ceased. With this cessation, there had developed drowsiness, failure in appetite, starting and crying at night. Six days before admission a large subperiosteal abscess had commenced to form behind the left ear. On examination, temperature, 100.2F.; pulse, 140–150 per minute; respirations, 46–50 per minute; there was intense drowsiness, a persistent and spasmodic half sigh, half yawn; pupils equally dilated; no paralysis of face or limbs; pale earthy complexion; dry, coated tongue; a persistent, troublesome cough; a large swelling behind ear; the left meatus and middle ear contained very foul, dried pus; there was some swelling in the upper part of both cervical triangles, but no tenderness over the left internal jugular vein. After evacuating the subperiosteal abscess, two erosions were found, one anteriorly leading into the antrum, the other posteriorly passing into the sigmoid groove. The antrum and tympanum were cleared out, the posterior meatal wall removed, and the sigmoid sinus exposed for fully half an inch; the posterior wall of the antrum was eroded into the sigmoid groove. The sinus was covered with granulations and pus, and looked black and unhealthy. Some of the bone behind the sinus was removed and the cerebellar dura exposed; the tegmen tympani and tegmen antri were also removed, there being erosions in that situation; though the sinus felt somewhat hard to the finger it was not opened. Distinct improvement followed the operation, but on the second day a rise of temperature and the very doubtful appearance of the sinus led to the opening of the latter. A fetid dark gray disintegrating clot was evacuated. The temperature which at first fluctuated finally became normal and complete recovery ensued.

A. LOGAN TURNER.



## VI. DIPHTHERIA, THYROID GLAND, ESOPHAGUS, ETC.

### Three Cases of Foreign Bodies in the Esophagus—Tracheotomy and Esophagotomy in One Case—H. L. MAITLAND—*Austral. Med. Gaz.*, November, 1899.

The first case was a woman, aged twenty-nine, who had swallowed a portion of a dental plate four months before, which could not be located by skiagraph. There was intense dyspnea, cyanosis and abundant muco-purulent sputum. The foreign body was located in the esophagus about opposite the cricoid cartilage. The low operation of tracheotomy was done with immediate relief. Esophagotomy was then done and the dental plate removed. The wound was left open and plugged with iodoform gauze. The wound healed in five weeks.

In the second case, a child, aged eight months, was said to have swallowed a safety-pin. Nothing could be felt in the throat; a skiagraph revealed the pin in the esophagus, about one inch below the level of the sternal notch.

It was decided, owing to the position of the pin (which was open and point upwards), to push it down into the stomach under chloroform. This was done by means of a Belfast linen bougie. The child had no further discomfort, and passed the pin by the bowel four and a half weeks later.

The third case was that of a miner, aged thirty-four, with an abscess about the size of a small orange on the left side of his neck, about the level of the cricoid cartilage. He stated that three weeks before he had swallowed a safety-pin, and that his neck had begun to swell three days after. A small incision was made along the posterior border of the sterno-mastoid where the abscess was pointing. The pin was felt by the scalpel on making the incision, and was easily withdrawn. The wound was plugged with gauze and the patient fed by nutrient enemata for five days; the wound healed in a month.

EATON.

### Asthma in Relation to the Upper-Air Passages—P. MCBRIDE, Edinburgh—*Edinburgh Med. Journ.*, July, 1899.

The author deals mainly with the subject of nasal asthma, but briefly refers to asthma associated with lesions in other parts of the upper respiratory tract. Under the first heading he discusses hay fever, which in certain persons is followed by asthma. He next refers to the presence of nasal polypi as a cause, dwelling upon the fact that in his experience small polypi are more liable to bring on an attack than large growths, a circumstance which possibly may be due to the greater mobility of the former causing more irritation to the mucous membrane. A third group of cases is found associated with hypertrophic catarrh and deviations of the septum. Sometimes the pathological condition is obvious and so marked as to interfere with nasal respiration, in other cases the deviations

may be very slight, so as hardly to justify the term pathological, and then the difficulty arises as to whether any surgical interference should be carried out. If, however; the bronchial attack be preceded by sneezing and nasal hypersecretion, the application of the electric cauterly may be beneficial by destroying nerve endings and by binding down erectile tissue by the formation of cicatrices. In other cases again, the author has found by means of the probe "cough spots" upon the nasal mucosa; when those reflex areas are obtained they should be touched with the electric cauterly, as their presence in these asthmatic cases certainly indicates intra-nasal treatment. In other cases again, even where no nasal symptoms or objective signs exist, it is possible that the application of the cauterly may prove a valuable counter-irritant. The author has very rarely found asthma associated with a lesion of any other part of the upper respiratory tract. With regard to prognosis, a cure should not be promised after operative interference, as the existence of asthma depends upon some individual predisposition.

A. LOGAN TURNER.

**Diagnosis and Treatment of Diphtheria**—T. W. RANKIN—*Columbus Medical Journal*, Dec. 30, 1899.

An early diagnosis of diphtheria is of the utmost importance. Both bacteriological and clinical methods should be used, and neither one relied on to the exclusion of the other.

The mere presence of the bacilli in the throat does not prove the presence of diphtheria nor does a failure to find them under certain conditions disprove its presence.

The bacilli may disappear early, they may not be found if anti-septics have been applied shortly before using the swab, if there is no membrane, or if it has disappeared, and if the precaution to go into the crypts of the tonsils with a probe is not taken. The secretions of the throat are apt to be misleading early in laryngeal cases and late in pharyngeal cases. Clinical manifestations should have careful consideration. The neglect of these symptoms and the delay of treatment until a bacteriological diagnosis is made is responsible for many disastrous results. In fully four-fifths of the cases a correct clinical diagnosis can be made in twenty-four hours. In treatment, hygienic, dietetic and medicinal measures of known value should not be neglected.

No prejudices should be allowed to deprive the patient of the benefit to be derived from antitoxin.

D. W. DETWILER.

**Diseases of the Eye, Ear, Nose and Throat in the Negro**—E. C. ELLETT, Tenn.—*Memphis Medical Monthly*, December, 1899.

The negro enjoys a singular immunity from catarrhal inflammation, but is prone to tuberculosis and syphilis. Hypertrophied tonsils are rare, tonsillitis uncommon. Adenoids do not occur in the negro.

SCHEPPEGRELL.

**A Case of a Melon Seed in the Left Bronchus. Operation. Recovery**—G. W. ARMSTRONG—*Australas. Med. Gaz.*, Sept., 1899.

A child 18 months old when seen was apparently suffering from bronchitis, with marked distress of respiration and elevated temperature. Nine months before while playing with melon seeds one of them was sucked into the windpipe. Since then there has been frequent violent paroxysmal attacks of coughing, during some of which the parents thought the child must succumb.

On examining the chest evidences were found of the seed being impacted in the left side, where breathing was seriously interrupted, very little air entering a larger part of the base of the lung.

The case was referred to Dr. W. Cleaver Woods who found that the foreign body was not tightly fixed, but had an interval in the tube—perhaps an inch or two in length—up and down in which it slipped with respiration. Two days later Dr. Woods witnessed a terrible convulsive fit which looked very like instant operation to save life.

The trachea was opened in the usual way, placing the handle of the scalpel in the tube crossways, and holding it there well against the posterior wall. The usual violent respiratory action which immediately followed served to dislodge the seed, and it was twice ejected against the handle of the knife, each time, however, being sucked back into the bronchus. The opening was now enlarged with scissors upwards and downwards and the blade of the knife depressed toward the chin, whereupon the seed was blown upwards along the handle of the knife and out upon the table. The trachea was closed with catgut sutures. The child made an uninterrupted recovery.

EATON.

**Gastrostomy for Traumatic Stricture of the Esophagus—Report of a Case**—GEORGE BEN JOHNSTON—*North Carolina Med. Journal*, December 5, 1899.

After all efforts to insert the esophageal bougie failed, a gastrostomy after the method of Ssabanajew-Frank was done. Dilation was then attempted with success, so that now a No. 12 bougie may be passed through the stricture.

SCHEPPEGRELL.

**Antitoxin in Diphtheria**—CHRISTOPHER C. CRONKHITE—*Indiana Medical Journal*, December, 1899.

The author cites two cases and arrives at the conclusion that in all cases of so-called false croup, no matter how mild the symptoms, antitoxin should be used immediately.

STEIN.

**Antitoxin**—O. W. ARCHIBALD—*Northwestern Lancet*, Jan., 1900.

This writer adds to the already long list of cures of diphtheria by antitoxin and reports two severe cases cured by this remedy. His experience also emphasizes the advisability of administering the serum early.

D. W. DETWILER.



## VII. INSTRUMENTS AND THERAPY.

**The Use of Suprarenal Capsule Extract in Surgery of the Ear, Nose and Throat**—W. W. BULETTE—*Denver Med. Times*, November, 1899.

In the experience of the author with suprarenal extract there has been little secondary hemorrhage after its use, not so much post-operative swelling, and the healing process is much more rapid than where cocaine is used alone. He is of the opinion from actual trials, that local anesthesia cannot be induced with cocaine and the extract by the aid of cataphoresis as thoroughly by other methods of applying these drugs, and further that cataphoresis induces hemorrhage. He has seen no unpleasant systemic effects from the use of the extract, but on the contrary has observed fewer cases of cocaine toxemia than formerly.

EATON.

**Methylene Blue as a Local Application in Diseases of the Mucous Membrane, with Report of Three Cases**—CHARLES MOIR—*American Pract. and News*, Dec. 1, 1899.

The pus-destroying properties of methylene blue are equal, if not superior, to any drug we have. In one to five per cent solutions it is non-irritating. The author reports a case of tonsillitis and one of nasal catarrh in which it appeared to be of benefit.

SCHEPPEGRELL.

**Climatic Treatment of Tuberculosis**—F. E. WAXHAM—*New York Medical Journal*, December 23, 1899.

There is no climate suitable to all cases. The climate must be adapted to the patient. Tuberculous cases should be sent westward early. Rest and increased nourishment plays an important part in the treatment of this disease. Invalids, instead of exercising when first reaching a change of atmosphere, should take long hours of rest, and, if fever is present, should remain in repose until same has subsided.

It is a sad mistake to send patients in the last stages of this terrible affliction away from home and friends.

M. D. LEDERMAN.

**Creosote in Tuberculosis**—S. GOLDSTEIN—*Galliards Med. Journ.*, August, 1899.

In an experience with eighteen cases of pulmonary and laryngeal tuberculosis, and in the glandular enlargements of the diathesis, the author concludes, after a trial of many excipients, that the combinations of maltine and beechwood creosote are the happiest. They are easily administered, being palatable; are of fully tested assimilability, offers increased nutrition and are unaffected by temperature variations. He considers beechwood creosote a valuable drug in these conditions.

F. C. E.

## BOOK REVIEWS.

**Masters of Medicine—H. von Helmholtz.** By JOHN GRAY MCKENDRICK, M.D., LL.D., F.R.S.S.L. and E., of Edinburgh. 8vo., cloth and gilt, 300 pp., \$..... Longmans, Green & Co., 91 Fifth Ave., New York, Publishers.

Under the caption, "Masters of Medicine," the publishers have undertaken a praiseworthy work in furnishing the profession and the world of science and art with an excellent series of complete biographies of some of the greatest minds in medical science.

The most recent publication of this series is the biography of von Helmholtz, one of the greatest minds of the Nineteenth Century, a physicist without a peer, whose original researches and contributions to light and sound have become world renowned.

The author very ably combines biographical incidents with a record of the achievements in scientific discovery and inventions of this great master in physics, giving an outline of the paths along which he trod, and presenting a sketch of the branches surveyed by von Helmholtz, and then adding an account of his contributions and researches in these fields.

The volume includes a characteristic portrait of von Helmholtz. The publishers are to be congratulated on the typographical beauty of this series, and this particular volume of the series should be in the library of every otologist interested in the history and early development of his science.

**General and Local Anesthesia.** By AIMÉ PAUL HEINECK, M.D., of Chicago. 124 pages, \$1.00. G. P. Engelhard & Co., Publishers, 358-362 Dearborn St., Chicago.

This handy volume includes many valuable suggestions, especially the consideration of local anesthesia in otology, rhinology and laryngology.

With the considerable application of anesthesia in otology, rhinology and laryngology it is necessary that we should familiarize ourselves with the many details in the use of local and general anesthetics. In our text-books devoted to these special fields of medicine, this subject is usually dismissed with a few words. This little manual fills a necessary literary niche.

**Die Missbildungen des Gaumens und ihr Zusammenhang mit Nase, Auge und Ohr.** (*Deformities of the Palate and their relations to the Nose, Eye and Ear.*) By DR. FRITZ DANZIGER, Beuthen, Germany. Monograph, 52 pp., 13 illustr., 4 lithographic plates. J. F. Bergmann, Wiesbaden, publisher; Lemcke & Buechner, 812 Broadway, N. Y., American agents.

Careful researches concerning deformities of the superior maxilla and its adjacent areas and attachments, form the subject of this original monograph. Special consideration is given to abnormal forms and their causes. The conclusions reached by the author are somewhat at variance with the generally accepted theories on this subject.

In considering the malformations of the jaw, the author includes: 1. An abnormally high palatal arch. 2. The alveolar arch, which diverges from the shape of a U to that of a V. 3. Retarded growth of the palate, causing a lack of space for the proper distribution of the teeth, and the consequent forcing out of line of some of the teeth. 4. A ridge of the alveolar arch occurring in the median line.

Basing his conclusions on observations of these deformities, the author describes the influences brought to bear on the nose, eye and ear.

A detailed understanding of the author's conclusions can be gleaned only by a careful perusal of the monograph. Special diagrams and plates are presented to elucidate the text.

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## ORIGINAL COMMUNICATIONS.

(Original communications are received with the understanding  
that they are contributed exclusively to THE LARYNGOSCOPE.)

### THE PAST AND PRESENT OF LARYNGOLOGY.\*

BY ORLANDO B. DOUGLAS, M.D.

Mr. Chairman:—I congratulate you—and fellows of the Section—on the degree of prosperity attained by this Association; and not only by the Association, but by the science it stands for. As we have been attracted to this work, believe it worthy of our best efforts, and have espoused it for life, through evil as well as good report, it is gratifying to know that others appreciate it also, and join our forces for the suppression of the greatest evil that, immediately and remotely, has befallen the human race—disease of the upper-air passages and their accessory parts.

It is not necessary, before a body of eminent specialists, to laud their labors or to commend the wisdom of their choice and the success of their work, but we may, with profit, consider what they and their predecessors have done toward perfecting an important department of medicine and surgery.

It has been said that history is the only study worthy of our time and labor. It is certainly an important part of a liberal education, but more than that, to know what *has* been is to know what *shall* be. By studying the past we learn of the work done by and appreciate the labors of our predecessors. We utilize their experiences, accepting the good and rejecting the bad. However depressing it may be to small minds to discover that much of their boasted wisdom is plagiarized, it broadens and strengthens the honest and progressive man to know the foundations that have been laid, upon which he may build. We justly honor our explorers, the discoverers of new worlds, new fields and new truths. He, too, is entitled to honor who

\*Read before the Section on Laryngology and Rhinology of the New York Academy of Medicine, January 24, 1900.



makes best use of these discoveries, appreciating that discovery is but the beginning of progress and lays upon him new obligations to cultivate and improve them. It is the part of wisdom to gather up knowledge and carefully sift and winnow out the good and true. In doing so he will find plenty of chaff always, but it will be careless work that does not find good grain in paying quantity. Not the least important part of this process is to note the proportion of worthless material to that which experience and good judgment can use to advantage.

The term Laryngology, as defined by Elsberg twenty years ago, "Embraced all affections of the larynx, trachea, root of the tongue, valliculæ and hyoid bone, tonsils, palate and uvula, pharyngo-nasal space, nasal passages, frontal sinuses, thyroid body, parotid and sublingual glands, the areolar tissue and other structures that make up the anterior portions of the neck." And, as if not sufficiently comprehensive, he adds, "As the mucous membrane of the throat is continuous with that of the whole alimentary tract; of the bronchi and their ramifications; through the pharynx and nasal fossæ with the sphenoidal, ethmoidal and maxillary sinuses; through the lachrymal ducts with the conjunctivæ; and through the Eustachian tubes with the mastoid cells and tympanum, diseases of *these* regions must sometimes be considered by the laryngologist."

"The connection between throat diseases and diseases of other parts of the body is so intimate that no one is competent to be a throat specialist who has not had a previous thorough medical education and considerable general clinical experience;" this is no mean accomplishment for any man.

In the twenty minutes or so allowed for this paper it will be impossible to do more than glance over the work done, not even mentioning the names of all who have studied and written upon the subject before us. We may read in the aphorisms of Hippocrates, the histories of Herodotus and of earlier Greek writers, references to nasal and throat troubles. Ever since there were noses, throats and ears they have been subject to diseases. The great Galen recorded his observations respecting coryza and other troubles that *we* are called upon to relieve; and so all the way down to the present century we may read—sometimes with amusement and amazement—the methods adopted by our professional ancestors to relieve catarrh. And, yet, honorable men of our profession and generation have asserted in this academy, that they knew catarrh could not be cured for they had tried their best and failed.

Hastily glancing backward, our attention is arrested here and there by conspicuous figures and epochal periods, the most important and

successful being well within the memory of men here present. Horace Green, the pioneer in American laryngology, great in all the essentials of greatness, a thorough cultivation, an honest purpose, confidence in his ideals, true to his convictions, brave, persevering, successful, was born the night before Christmas, 1802. "His genius and dexterity penetrated and dispelled much of the darkness which had hung over the subject of laryngeal disease. He lived to see his almost miraculous predictions verified, his researches confirmed and his bitterly criticised precepts and practice vindicated." He died of pulmonary disease in 1866.

A most important event in the history of our specialty was the invention of the laryngoscope. Garcia had succeeded in seeing the vocal bands by means of a mirror, but it was left for Johann Czermak to bring to our use a more perfect apparatus, first used in Vienna in 1858, but brought to New York the same year by Dr. Ernest Krackowizer.

I began my medical studies in 1858, and though not appreciating its subsequent advantage to me, I remember something of the commotion the laryngoscope wrought. Like many another excellent innovation, it was criticised and condemned by some, ignored by many of our profession and approved by a few. Among the latter, and one of the first to take special instruction from Czermak, was our own Elsberg. He instituted the first free throat clinic in America, and gave the first course of lectures here, upon laryngology, in 1861. He died in 1885, but not until his energetic labors had been rewarded by a great awakening to the importance of his loved specialty.

We may justly be proud of the achievements of many of our own fellows of this academy, but our time and purpose to-night will not permit us to review their work in detail or to speak of the magnificent work done by many other specialists in our own country and abroad.

It is interesting to look over early American literature relating to diseases of the nose and throat. In Elsberg's bibliography of published articles, from 1809 to 1878, I find that during the first twenty years, *i. e.*, to 1830, there were sixty-five publications, of which number thirty-one related to croup in its various phases; seven to the tonsils; seven to the larynx; six to foreign bodies; three to the palate; two to the uvula; two to "mouth disease," and one each to whooping cough, tumors, "nose polypus" and aphonia. During the next twenty-nine years, to 1858, when the laryngoscope came into use, there were five hundred and thirteen papers published, while in the twenty years following, to 1878, fifteen hundred and eighty-three articles, relating to laryngology in its broadest sense, were given to the world. We find no reference to nasal troubles till 1820, when Trowbridge

published in the *Medical Repository* his paper on nose polypus. In 1829 Arman published something on the same subject. Horner gave in the *American Journal of Medical Sciences*, in 1830, the first article we find on ozena and another article upon the same subject in 1835. During twenty-two years, of the seventy-five papers published, only three related to the nose—four per cent. In the next twelve years ninety-three were published, twelve of which were upon nasal diseases—about thirteen per cent. And we find more and more attention paid to the nose as the years passed.

The progress made in the last forty years has been largely due to *special study* and investigation of causes of disease, therapeutics and surgery keeping well abreast of the knowledge gained. It is hardly a debatable question whether it is better that a man should know something about all things or all about some things. Genius devotes itself to the latter, observing and recording details. Quality is more important than quantity. Thorough work has brought our specialty to the front and commanded respect from such as we would respect. Scholarly, experienced, enthusiastic workers have directed us in the past; there has been a self-sharpening system, stimulating emulation and rewarding devotion.

The purpose of this paper is not to criticise men or methods, rather it is a reminiscence, and we may commend honest effort though results be faulty. Imperfect work must be condemned, and we could find employment for all our time in pointing out defects in theories and practice in the immediate and remote past. Experience has taught each of us that because a thing is old it is not necessarily sound. Neither is the unseasoned *new* wholly reliable. We live in an age of investigation—an etiological period of the world. Theories are challenged, antiquated methods criticised, that which bears the sacred seal of age is subjected to tests, and prying eyes and searching investigation penetrate our petrified possessions. Ignorance is no longer a safe subterfuge.

Greater New York has more than one hundred hospitals and dispensaries, of which eighty are supposed to treat more or less cases of nose and throat disease. Of the 509,892 patients treated in forty-one hospitals, 391,550 are reported as "out patients," and of this number, 34,408 were treated in nine hospitals for diseases of the nose, throat and ear by two hundred and eleven surgeons. It would be interesting to know just the number of surgeons employed in all these hospitals, and the number of hours of service given by them to this work. Also, the total number of patients treated, and the results of treatment; the number of persons employed, and the time devoted to the care of patients, rooms and appliances; the value of all such



service, and of the buildings, instruments, apparatus, medicines, etc., used in this work. If we add to this the work done in private practice, and its value, the total would doubtless surprise us. Figures to represent all this might be approximated, I presume, but many hours spent in the search revealed only the figures given. Yet these are sufficient to impress upon us the magnitude and importance of our work.

It is an exalted privilege to be associated with men in so grand a work, to aid in relieving so large a proportion of all human suffering. It should be an inspiration to do better work, and prove ourselves worthy to bear the mantle that has fallen upon us.

There is great need for *perfecting the work in hand*, and while it is much more difficult to analyze the immediate present than all the past, our intimate surrounding is our field for work. To quickly grasp the situation and skilfully manipulate present opportunity can alone bring success, and success is a duty we owe to our predecessors and to posterity, as well as to our patients and ourselves.

What remains to be developed? The best that is in us, and infinite possibilities in the realms of the unknown. The forces of Nature have never been exhausted or even impaired. There are secrets to be revealed that are just as wonderful as any discovered. Nature loves her lovers, she is coy, but frank, and opens her stores freely to her sincere devotees. When Czermak brought out the laryngoscope, was there nothing to be done? Carl Koller gave us cocaine, but the marvelous virtues of supra-renal capsule remained unknown. O'Dwyer's intubation methods came to us in the last fifteen years. It is the unexplored that allures, the unknown that attracts. There are *bonanzas* in future possibilities. Enterprise is essential, there is no progress without it. But our zeal for the new must not make us unmindful of the old or overlook the helps we have. Routine work is monotonous and tiresome when we have no other motive than to get through with it. It has been said, I think by Tyndall, that every department of science is dependent upon every other department. This is true in medicine. No one department or specialty can stand alone.

I submit for your consideration and discussion the following questions:

1. What has brought you the greatest success in treating diseases of the nose and throat?
2. What is the greatest need, what do we most lack, in the successful treatment of these diseases?
3. Along what line of investigation, in nose and throat work, promises best results, the object being to relieve the greatest amount of human suffering?

123 E. 36th street, New York, N. Y.

## ASSOCIATED FRONTAL SINUS AND MASTOID DISEASE.

BY THOMAS J. HARRIS, M.D., NEW YORK.

The following case is reported on account of its unusually peculiar and confusing history:

J. C., aged seventeen, South American, presented himself at the Manhattan Eye and Ear Hospital in August, 1896, for pain in left mastoid.

There was a history that in a voyage North during the preceding spring he had been seized with violent pain in left mastoid, followed by unconsciousness. A local physician was called in at the island of Hayti, where the vessel stopped, and performed a mastoid operation. The young man at once proceeded to this country. The intense pain had disappeared after the operation, but, according to his statement, he was never entirely free from pain, even being prevented at times from sleeping. At this time no pain was complained of elsewhere than in the mastoid region. Examination showed tenderness over mastoid, the presence of a recent scar, and a suppurating middle ear. The case was admitted to the hospital and the usual course of ice locally and hot douching followed. The pain ceased after a couple of days—there was no temperature and patient was discharged.

He left for Chicago, where pain returned. On his return to New York he again consulted me and was readmitted to hospital, September 14th. The classical Schwartz mastoid operation was performed on September 15th. Much diseased bone was discovered and removed and communication freely established with attic. Convalescence was rapid, and on the second day he sat up; temperature normal. The pain was not entirely relieved, but much reduced. About this time he began to complain of pain in the region of the frontal sinus. My recollection is that during the preceding month he referred to headache there, but I paid no attention to it, as it seemed to radiate from the mastoid. The nose was inflamed, especially in the region of the middle turbinals catheterization of frontal sinus, although not bringing away pus, gave relief to pain on two occasions. There was a large amount of purulent matter in right side of nose continually, strongly suggestive of sinus disease on that side. I was unable to discover any disease of the ethmoid cells, however, and believed I was dealing with an empyema of the frontal sinus.

On the morning after the third catheterization, September 27th (tenth day after operation), I was called to the hospital in haste, with the report that the patient was in a condition of collapse. It seemed that almost directly after his visit to my office he had been seized with violent pain in the forehead, which did not yield to any form of analgesic. My memory is that I had employed a weak solution of peroxide of hydrogen in the syringe. Some strong mental treatment seemed to quiet him for the present, but from now on there was constant severe pain in forehead. It is important to note that on the day preceding the last catheterization spoken of, the hospital notes mention severe pain in the forehead. The patient was given all forms of outward application and internally morphine, sodium bromide, phenacetine, quinine, Warburg's tincture, but without any effect on his severe suffering. You will notice during all this time the temperature remained normal. The mastoid wound remained in a healthy condition and healed rapidly.

On October 17th I determined to open the frontal sinus, which I did by the Luc method, but with the exception of a spot of what seemed bare bone nothing was discovered. A drainage tube was carried into and through the nose and the wound in the integument closed up. This operation brought no relief to the pain. From now on the condition became steadily worse. Nothing seemed to control the pain. The wound in the forehead healed, and as no pus came through the tube this was removed. For the next ten days the temperature remained elevated about one degree; on the 27th it rose to 102°. The patient showed now distinctly a typhoid state; there was obstinate constipation, the pulse rose to some over one hundred and sordes was present on teeth and tongue.

There was present much of the time a noisy delirium. On the 28th the recent wound in the frontal sinus was again opened under chloroform with an idea that possibly pus was retained. The sinus was found entirely free from all secretion. This time I allowed the wound to remain unclosed for purposes of observation. On the day following, the patient was placed on iodide of potash. There was no surprising result and the morphine had to be continued in full doses. On November 3d, the fifth day after beginning the potash, an improvement was first noticed. The general condition, which had been regarded critical, slowly improved.

The pain continued in paroxysms. The bowels still were very costive. Delirium persisted as late as November 8th, ten days after taking the iodide. The chart notes fits of crying and rolling of eyes. The discharge from ear persisted. He was now able to sit up and was discharged November 18th, with the pain virtually gone from forehead.



During all this time the discharge did not entirely stop in ear. For a period of possibly two weeks all pain seemed to be gone and he seemed to be in a convalescent condition. Then pain returned in the mastoid. This persisted, and after careful examination I decided that there was still diseased bone in the mastoid region and took him again into the hospital, where we did a modified Stacke operation, finding much diseased bone. This relieved the pain. Convalescence was uninterrupted. I saw the patient frequently during December and January, and his general condition was good; the ear was practically well. There was, however, a persistent complaint of more or less frontal headache, not violent as formerly, but annoying. The case was seen in consultation by several of the attending surgeons, but nothing new elicited. Finally, about February 1st, I determined to send him home to Brazil. Since arriving there I have learned he was feeling very well. In presenting this report I regret I have nothing definite in the way of an explanation for the curious symptoms present.

It has been to me a baffling case. It will be recalled that a certain amount of frontal pain was present from the start; while, too, it is undoubtedly true that no relief was obtained until iodide of potassium was started, I hesitate to conclude the condition was specific. Granted that that condition exists among most of the South Americans, yet here was a boy of seventeen where no history or other symptoms could be obtained. Dr. Chas. H. Knight, who saw the case, inclined to this opinion, however. Dr. Andrew H. Smith believed we had to deal with a pachymeningitis. I fail to find any case reported where the meningeal trouble seemed to have as its chief symptom violent frontal pain.

The unquestionable hysterical element was not to be lost sight of. It is difficult, however, to estimate how far this was an important factor. I have presented the report here, hoping that in the wide experience of the gentlemen present an answer to the question: How far inflammation by continuity from a chronic mastoid is possible to extend to the region near the frontal sinus?

I am free to confess that while I never could diagnose it, I have always suspected an empyema of the sphenoidal sinus. There was for the most part profuse discharge, muco-purulent in nature, only partially checked by curetting and cleansing. Excessive sensibility always prevented any careful probing beyond the ethmoidal region.

117 E. Fortieth Street.

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## A CASE OF CARCINOMA OF THE PHARYNX.

BY DR. GOTTLIEB KLÆR, COPENHAGEN, DENMARK.

The patient is a man, forty-five years old, who has previously enjoyed good health. He denies to have had syphilis. For the past month he has had a slight pain in his throat with deglutition, especially when swallowing solid food. This pain is not felt below the level of the thyroid cartilage. There has been no bleeding. The pain is neither spontaneous nor lancinating, but occurs only during deglutition.

The patient is tall, poorly nourished and of pale cachectic appearance; has not decreased in weight; appetite good. Speech is thick and muffled, but not hoarse; breathing is at times slightly gasping, but he has felt no trouble whatever in this direction even after rapid walking or exertion.

Laryngoscopic examination reveals a large, deep, ragged ulcer with irregular surface in the glosso-epiglottic region. The ulceration extends anteriorly to the radix linguæ, posteriorly it occupies nearly the entire anterior surface of the epiglottis, with the exception of the narrow, swollen, red free lip. The ulceration extended downwards between the tongue and epiglottis, so that the latter appears loosely dissected and pressed well backwards, depending as a cover over the intritus laryngus. On casual examination it would appear that these are the lumen of the larynx felt with an ulcerating tumor, but by careful inspection the swollen free lip of the epiglottis can be seen posteriorly close to the pharyngeal wall. The lumen of the larynx itself can be definitely determined on account of the stiff immovable epiglottis.

The lymphatic glands in the region of the os hyoideum are infiltrated, especially on the left side, and here they are also quite sensitive to pressure. The inguinal glands are also somewhat swollen. There are no other symptoms opening to a possible syphilitic infection. Further examination reveals nothing abnormal.

For three weeks he was treated with mercury and potassium iodide, which partially subdued the irritative redness about the outer zone of the ulceration, but the ulceration itself remained unchanged.

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## A TOOTH IN THE LEFT NASAL CAVITY CAUSING PURULENT RHINITIS.

BY HOMER DUPUY, A.M., M.D.

Assistant Surgeon Eye, Ear, Nose and Throat Hospital, New Orleans.

Medical literature has reached enormous proportions, and it is rare indeed when reporting a case that one cannot find the homologue to his own.

A careful review of the "Index Medicus," and of standard works and journals in rhinological literature, resulted in my finding the report of only one case of a tooth in the nasal cavity.

It is this knowledge of its rare occurrence and uniqueness, as well as its embryologic and pathologic features, which induced me to report the following case:

Mrs. H., aged twenty-five, presented herself at the clinic of the Eye, Ear, Nose and Throat Hospital for the relief of "Nasal Catarrh."

Patient stated that three months prior to her admission at the clinic she was thrown from her bicycle, falling on a hard, gravel-covered embankment.

Recovering from the shock she had a profuse hemorrhage from the left nasal cavity which lasted for over an hour.

About fifteen days after this accident she noticed a discharge from the left nostril, which gradually increased in quantity, and soon became very offensive.

From that time to the date of patient's admission in the hospital, a period of three months, the discharge continued uninterruptedly.

She insisted that on the occasion of her fall from the wheel a pebble had lodged in the nose, and was the cause of her present ailment.

While her nasal condition was a source of great discomfort, her general health seemed perfect. Rhinoscopic examination revealed pus along the floor of the left nasal cavity, which being removed, a body, having the gross appearances of a rhinolith, was seen on the floor of the nose, about half an inch from the anterior nasal orifice. A probe, used with considerable force, made no impression on the mass, which appeared to be deeply imbedded in the floor of the nose.



With nasal forceps the body was tightly grasped, and by dint of forcible and repeated movements, the mass was extracted.

To my surprise it proved to be a tooth, which on inspection showed the crown to be undergoing caries, the root, however, being perfectly normal.

A probe bent at a right angle, and passed along the floor of the nose, entered a socket having a depth of one-third of an inch. This was evidently the former seat of the tooth. The probe could neither be seen nor felt in the roof of the mouth, which presented no deviation from the normal.

The root of the tooth presented the typical outlines of an incisor.

The superior dental arch showed no break in its continuity; but on enumeration of the teeth, one was missing in the left half of the upper arch, and it proved to be the *left lateral incisor*. I emphasize the fact that this anomaly was not appreciable, except by enumeration of the teeth, which were so perfectly adjusted as to form an unbroken arch. The patient made a speedy recovery from the purulent rhinitis.

She reported at intervals for a period of six months, after which time examination of the nose showed the socket on the floor to have totally disappeared.

We are certainly not justified in presuming that this is the only instance of a *misplaced* tooth having erupted in the nasal cavity.

Nature repeats anomalies, time and again, yet, judging from the literature accessible to me, this particular anomaly has not often been recorded.

The scarcity of reports on so interesting a subject justifies my insertion of the one case I found reported.

In the June issue, 1899, of the *Southern California Practitioner*, Dr. Hoell Tyler, of Redlands, Cal., reports a case of "A tooth in the nasal cavity." I republish his article in full:

"The patient was thirty years old, and married. She sought treatment for catarrh and throat trouble and stated that she had been treated by several homeopathic specialists at intervals for several years. But having her nose sprayed, and taking medicine out of two glasses, had given but little relief.

"She had chronic rhinitis with a stinking discharge from the right nostril, chronic pharyngitis, and was anemic and in rather poor general health. On cleansing the nasal cavity I discovered what I mistook for a foreign body, about one inch from the anterior nasal orifice. I was surprised to find that I could make little or no impression upon it with forceps or strong steel hooks, although consid-

erable force was employed. Both ends being imbedded I determined to cut it in two by means of the dental drill and extract the fragments. The jarring of the drill loosened it somewhat and then with the steel hooks it was extracted.

"It grew from the nasal septum, in which it was imbedded to the depth of three-sixteenths of an inch, with the root turned downward. The root did not penetrate the roof of the mouth; it was not connected with the alveolar border nor with any cyst. The tooth extended horizontally directly across the nasal cavity, resting upon the floor of the latter and with its crown or point imbedded in the inferior turbinated bone. It resembles a canine tooth, is nine-sixteenths of an inch in length, a little over one-eighth of an inch in diameter in the largest part, had a pulp cavity and central canal and was supplied with blood vessels and a nerve. The patient had had the usual number of teeth in her jaws and there was nothing peculiar about her mouth.

"The wound in the nose healed readily and she recovered from the rhinitis and pharyngitis with ordinary treatment.

"Most of the works on surgery, and special treatises, speak of supernumerary and misplaced teeth sometimes forming cysts in the superior maxillary bone and occasionally penetrating the nasal cavities, but in the literature accessible to me I have been unable to find any account of a tooth growing from the nasal septum and I do not recollect having read a report of such an instance in the medical journals, although I have no doubt there are several such instances recorded."

#### REMARKS.

Dr. Tyler's case is evidently one of a *supernumerary* tooth; the one I report being a *misplaced* tooth.

The etiology of both anomalies is a most interesting problem, for which two explanations may be offered:

*First*—During the development of the embryo, the enamel-germ in both conditions being displaced from its normal position by some *intrinsic*, developmental force, inversion of the enamel-organ occurred, causing the tooth to grow upward.

*Second*—The same condition may have been produced by some *extrinsic* force, such as trauma or abnormal pressure, causing inversion of the enamel-organ in utero.

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## THE RADICAL TREATMENT OF FOLLICULAR TONSILLITIS.

BY M. A. GOLDSTEIN, M.D., ST. LOUIS, MO.

Among the various suggestions offered to aid prompt resolution of follicular tonsillitis are the advocates of radical measures who combine active local treatment with systemic medication. As the cause of infection may be traced directly to the tonsillar crypts with their contents of food detritus, micro-organisms and pus, and as the speediest means of arresting disease is to remove the cause, it is rational to conclude that complete evacuation and cleansing of these follicles of their infectious contents offers the speediest cure.

For this purpose I avail myself of two accessory instruments especially adapted to enter the follicles.



Fig. 1. Tonsil scoop.

The tonsil scoop here illustrated shows the natural size of the instrument. The curve in the shaft close to the curetting end facilitates the manipulation of the scoop about the follicles. The curette end consists of an oval, blunt, miniature spoon with a bowl sufficiently large to engage the entire contents of a single follicle with each introduction of the instrument. The shaft is about six inches long and of the same caliber at the proximal end as the shafts of the standard laryngeal mirror to admit of insertion in the universal handle.

An additional convenience in the applications of medications to the follicles after curettement is a flexible applicator, consisting of a nickel-plated soft copper wire with a tapering shaft, the end of which is faceted to securely hold a bit of twisted cotton. The flexible end of the applicator can be bent at any angle, and can also be made to penetrate the depth of a tonsil containing deep crypts and pockets.



The method which I have employed with best results is as follows: Each crypt or follicle is thoroughly cleansed with the tonsil scoop described above. Into each cleansed follicle the applicator, well armed with a small tuft of cotton saturated with pure guaiacol, is carefully introduced, precaution being taken not to spread the medication over the surface of the tonsil, but directly into the depth of the crypts.



Fig. 2. Flexible applicator.

I have also used protargol (ten per cent solution), trichloracetic acid (saturated aqueous solution) and Loeffler's solution in a similar way with equally favorable results.

These applications are to be made at intervals of eight hours, and if the cases are seen in the early stages of infection, but two, and, at most, three applications effect a cure.

The following gargle completes the local treatment:

R	Liq. Ferri chlorid .....	3i
	Glycerini .....	3i
M. S. Teaspoonful in glass of water. Gargle every two hours.		

In addition to the local treatment I lay the greatest stress on three therapeutic factors: 1. A brisk purge, preferably produced by a saline draught, such as eight to sixteen ounces of magnesium citrate. 2. A good sweat as induced by pilocarpine hydrochlorate  $\frac{1}{12}$  to  $\frac{1}{8}$  grain, followed by wrapping the patient in blankets in bed. 3. Thorough saturation of the system with sodium benzoate and sodium salicylate.

## SOCIETY PROCEEDINGS.

### THE LARYNGOLOGICAL SOCIETY OF LONDON.

*Eighth Annual General Meeting, January 5, 1900.*

F. DE HAVILLAND HALL, M.D., President, in the Chair.

#### **Case of Tabes with Almost Complete Laryngoplegia.**

Shown by Sir Felix Semon. A. S., a carman, æt. forty years, was admitted under the care of Dr. Hughlings Jackson into the National Hospital on December 11, 1899. He had syphilis five years ago with secondary symptoms, and was treated only a few weeks. His present symptoms began fourteen months before admission with loss of control over the bladder. This was followed by numbness and shooting pains in the legs, trunk and hands, ataxia and gastric crises. For nine months his voice had been altering and he had had shortness of breath, but apparently no laryngeal crises.

*Summary of Symptoms.*—Extreme general emaciation. Arteries thickened and tortuous. Double ptosis. Reflex iridoplegia. Slight weakness of the right half of face. Extreme inco-ordination; marked hypotonia; can only walk when supported. Entire loss of sense of passive movement in lower extremities. Analgesia (partial) over face, over arms and upper part of chest and over lower extremities. Severe shooting pains and gastric crises. Complete incontinence of sphincters; no anal reflex. All deep reflexes absent; plantar reflexes show a typical tabetic response. No difficulty in swallowing, no return of fluids through the nose.

*Voice.*—Speaks in a loud, hoarse whisper. When talking he quickly runs short of breath, and between his utterances a sort of subdued inspiratory stridor is sometimes audible. He cannot cough in the usual way, but on attempting it a long, noisy expiration results.

*Palate.*—On attempted phonation the palate itself remains perfectly motionless, but the posterior arches make some rapid and feeble inward movements. The tactile sensibility is perfectly normal, but the reflex excitability is much diminished, though not completely abolished.

*Larynx.*—During quiet respiration both vocal cords stand perfectly motionless in about the minimum width of the cadaveric position (about 3 mm.) apart, but their posterior ends are a little nearer one another than is usual under such circumstances, and their free borders are not excavated, but perfectly straight. Neither on attempted deep inspiration nor on phonation is the slightest movement of the cords visible.

On touching the epiglottis with a probe, no reflex movement whatever is noticeable. On touching the inter-arytenoid fold regular closure of the glottis takes place immediately, without cough being produced.

On touching the right ventricular band reflex closure ensues. The same more strongly and combined with feeble cough ensues when the left ventricular band is touched.

*Remarks.*—The case is shown on account of its extreme rarity. It is the third case I have ever seen of complete or nearly complete bilateral recurrent paralysis, and the first I have ever seen in tabes. There is only, so far as I know, one case of complete bilateral recurrent paralysis in tabes on record. This has been described by Gerhard<sup>t</sup>.\* Another very remarkable circumstance is the comparative loudness of the patient's voice. As a rule in bilateral recurrent paralysis the voice is entirely extinct and the whisper absolutely toneless. Finally, the manner in which a few fibres of the accessory and vagus have escaped (as shown by the fibrillary contraction of the palatinal muscles, by the possibility of closing the glottis on peripheral stimulation, by the maintained possibility of producing tension of the vocal cords through the crico-thyroids, and by the diminished, yet not quite abolished, reflex irritation of the palate and larynx) is very remarkable.

I have to thank Dr. Hughlings Jackson for kindly permitting me to show the case, and Dr. H. L. Collier for the notes of the general condition of the patient.

Mr. W. G. Spencer said that this was another instance of focal lesions in tabes, which agreed, in his opinion, with the results of experiments concerning the vagus group of nerves. The case pointed to a bilateral lesion of the nuclei corresponding to the pneumogastric roots, as shown by the sensory paralysis, the impairment of the respiratory muscles and the impossibility of coughing. Dr. Tilley and others had shown cases where the lower bulbar roots of the vagus were involved, in which, as distinct from the present case, there was noted paralysis of the abductors of the soft palate without loss of sensations in the larynx or disturbance of respiration, etc. There were also cases in which the spinal accessory nuclei were involved, and the trapezius and the sternomastoid muscles were paralyzed; in other cases the hypoglossal nucleus being also involved, there had been paralysis of one side of the tongue.

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\* "*Bewegungsstörungen der Stimmänder,*" Nothnagel, *Spec. Pathologie und Therapie*, Bd. xiii, 1896.



Sir Felix Semon said that he did not wish to say anything at present as to the general question of the innervation of the larynx. This patient had not isolated abductor or adductor paralysis, but practically complete recurrent paralysis. If the patient attempted to cough, a large quantity of air escaped through the glottis, and this was the cause which prevented him coughing in the ordinary fashion. He was not aware that Dr. Tilley had ever shown a case of adductor paralysis in tabes, and doubted whether he had done so; cases of *abductor* paralysis in that affection, of course, were not rare. His reason for showing this case was that it was, so far as he knew, the second on record in the whole of the literature on the subject in which there was a *complete* laryngoplegia in a case of tabes dorsalis. As to the escape (?) of some fibers of the palate, he had pointed out in his paper this remarkable fact, both in the motor and sensory spheres, in the palate and larynx. The laryngoscopic image was not exactly as it would have been if the patient was suffering from complete paralysis of the superior laryngeal nerve, *i. e.*, the cords were not excavated but perfectly straight, which showed that the cricothyroid muscles must have escaped, a fact which was further corroborated by the comparative loudness of the patient's voice.

#### **Case of Pharyngo-Esophageal Carcinoma.**

Shown by Mr. Spencer. The patient is a man about sixty. He complains of wasting, owing to difficulty in swallowing during the last three months. He has a mass of carcinoma at the junction of the pharynx and esophagus and involving the back of the larynx, causing swelling of the arytenoids and ventricular bands, and there is also some infiltration of the glands in the neck.

Five other such cases have been seen during the past year. Two had very extensive infiltration of the glands in the neck, with some hoarseness and dysphagia. The primary growth was situated in the hyoid fossa, and quite small, not more than one to two cm. in diameter.

No attempts at removal have been made, as there seemed no prospect of affording relief, especially as the larynx itself would have to be removed. Neither would gastrostomy have improved the patient's condition.

All the cases have tended rapidly to a fatal issue.

Sir Felix Semon made some observations of a general character with regard to this case. Mr. Spencer had shown a case of early cancer of the *pharynx* in which the primary focus was very small, and yet there were big masses of glands in the neck. He asked,

Why did not the same happen in "intrinsic" cancer of the *larynx*? The school of Sappey was totally opposed to Luschka's statements on this question, according to which the laryngeal lymphatics were of a more isolated character than those of the pharynx, which freely anastomosed with neighboring lymphatics. Luschka's views had at any rate the merit of intelligibly explaining the undeniable clinical differences between intra-laryngeal and pharyngeal cancer with regard to infiltration of the neighboring lymphatics, which, if Sappey's statements were correct, was absolutely unintelligible. The speaker thought that this was a most important question, which deserved reinvestigation.

#### **Case of Primary Atrophic Rhinitis Commencing in Infancy.**

Shown by Mr. Spencer. A child, æt. five was brought for treatment on account of *ozena* and crusts. She has been for some time under Mr. Spencer, and has been treated by a saline douche without any marked improvement. The appearances in the nose are typical. There is an entire absence of any evidence that the rhinitis was secondary.

The child had nothing wrong with the nose during the earlier months of infancy, and she has had no other illness.

Dr. Bronner had seen several cases of *ozena* which had begun at an early age—twelve, indeed, between two and three years of age. They should make a distinction between atrophic rhinitis and *ozena*, which were distinct and separate diseases. In the north of England atrophic rhinitis was extremely common, especially amongst the mill girls. *Ozena* attacked its victim early, whilst atrophic rhinitis began between the ages of fourteen and eighteen. The cases of *ozena* he had seen in babies had been independent of syphilis; possibly, perhaps probably, they were connected with purulent discharge at birth caused by contagion. As regards the smell, the children of the working classes often smelt so badly that it would be difficult to detect the smell of *ozena*.

Dr. Herbert Tilley said he could find no evidence of congenital syphilis in this case. He had seen similar cases, and did not consider them very rare. It was interesting to find that no history of a purulent discharge preceded the present condition of scab formation, and therefore the case was opposed to Bosworth's view that atrophic rhinitis was a late stage of purulent rhinitis in childhood. The speaker thought the great majority of the latter cases were due to adenoids. Again, such cases as Spencer's showed how improbable it was that "*ozena*" arose from accessory sinus suppuration, as stated by Grünwald and others.

Dr. Jobson Horne suggested that bacterioscopic examinations made at intervals might possibly throw some light on the etiology of the condition.

Dr. Lambert Lack said he had seen a family in which several members among the children suffered from ozena, which commenced at an early age. He thought he could bring forward a dozen cases in which the discharge had commenced at as early an age as in the case under discussion. In the majority of these cases there was a history of purulent rhinitis at quite a young age, though it might not always be due to any special cause, such as gonorrhea, syphilis, etc. He believed that, as a rule, atrophic rhinitis was the result of long-continued purulent rhinitis; and that if one reckoned the discharge as an early symptom of atrophic rhinitis, the majority of cases could be dated back to an early period of life.

Mr. Waggett referred to a family case of atrophic rhinitis. The disease was well developed in the mother. Six years ago her daughter, six years of age, came to the hospital with muco-purulent catarrh. In spite of nose-washes, etc., she had gradually developed atrophic rhinitis, which was well established at the present date. Her younger sister had during the last two years exhibited the same sequence of changes. There was still another little sister, who was following the same course. Here was a case of family ozena quite unconnected with syphilis, and making itself evident between the ages of four and six.

Mr. Spencer, in reply, said the points in the case were that there was no evidence of congenital disease; the formation of crusts and the ozena had been first noticed at ten months. Atrophic rhinitis was very generally secondary, but in the present instance all inquiry as regards a secondary origin failed. He thought the related histories of affected families important in relation to a possible bacterial origin. Hitherto the bacteriology of the nose had not advanced far.

#### **Case of Papillomatous Condition of Tongue.**

Shown by Dr. Ball. A healthy-looking girl, *æt.* twenty, with good family history, has had discomfort in her tongue for about two years, and for the same period has noticed a "growth" on her tongue which has gradually increased in extent. The discomfort and soreness get worse for some weeks at a time, and then diminish, but never quite leave her. For the last few months she has felt some soreness of the throat on the right side. There is no history or suspicion of syphilis. Immediately to the right of the middle line of the dorsum of the tongue there is a marked outgrowth over an area



about half an inch broad, extending from near the tip to the origin of the circumvallate papillæ. It is made up of separate nodular masses varying in size from a grain of rice to a small pea. The surface is redder than the rest of the tongue, and the papillæ are enlarged. Under the tip of the tongue to the right of the frenum are some small warty growths. The right anterior pillar of the fauces is congested, and presents a few small glistening elevations.

Mr. Butlin said he had carefully examined the tongue, and believed that the disease should be described as a local macroglossia—an affection of the lymphatic system of the tongue. He had seen many similar cases, and this one resembled the first in which he had removed the disease. The patient was just such another red-faced country girl, and the tumor occupied the middle line of the tongue in two longitudinal crests. He thought they were papillary growths, and cut them out with scissors. The hemorrhage was very abundant, and continued to recur in so serious a manner that pressure had to be employed for part of two days before the bleeding was arrested. Ever since, Mr. Butlin had made a practice of cutting such growths out between the two deep incisions which passed far into the substance of the tongue. The edges of the incisions are brought together with silk sutures, and there is no fear of recurrent or secondary hemorrhage.

### **Specimen of a Bony Cyst or Middle Turbinate Bone.**

Shown by Dr. Herbert Tilley. The specimen was a large bony cyst removed from the left middle turbinate of a young woman, æt. twenty-nine, who complained of nasal obstruction, aching over the root of the nose, and a constant discharge of clear fluid from the left nostril.

The cyst would contain a horse-beam, and was interesting from a pathological point of view. It contains a muco-purulent secretion and a few edematous granulations. It was removed by dividing the attachment of the middle turbinate to the outer wall of the nose with scissors, and then snaring the semi-detached portion.

The patient was quite relieved of her symptoms.

Dr. Watson Williams remarked that an ethmoidal cell sometimes existed normally in the middle turbinate body, and this, like the other ethmoidal cells, might become the seat of inflammatory disease. He thought it probable that in this specimen, as in many of the cases of cysts of the middle turbinate, some such "primary accessory sinusitis" arose, resulting in the blocking up of the ostium, and consequent distension with retention of secretion and formation of the cyst.

Dr. Jobson Horne inquired whether the cyst communicated with the interior of the middle turbinal body. He had met with what might be a somewhat similar condition, and in which he was inclined to regard the cyst as a modified anterior ethmoidal cell.

Dr. Bennett said these cysts were not rare, and in one or two cases, owing to pressure and pain, he had had to remove such at a comparatively early stage; there were no contents, but the space was lined with a perfectly smooth membrane. In one case he had to operate on account of the neuralgic pains. He did not understand how such cystic dilatations originate. He had seen larger cysts than those shown.

In reply, Dr. Tilley said that he had searched carefully for communication with the other ethmoid cells, but had found none. There was no evidence of accessory sinus suppuration. The exhibitor could offer no satisfactory solution as to the origin of such growths; they might possibly be a dilatation of the normal cells existing in the middle turbinate, which became enlarged as a part of a chronic inflammatory process; or, as MacDonald has suggested, they may arise from incurvation of the free margin of the bone enclosing a cavity lined with normal nasal mucous membrane as the result of an osteophytic periostitis.

#### **Case of Male æt. Seventeen Years after Removal of Fibro-Myxoma of the Post-Nasal Region.**

Shown by Dr. FitzGerald Powell. The case was shown at the last meeting of the society.

On December 2d he was placed under an anesthetic, and examination disclosed the extensive character of the tumor.

A preliminary laryngotomy was performed, and the upper aperture of the larynx plugged with sponges.

The soft palate was then split and the divided portions held apart by long silk threads passed through them. It was not necessary to remove any of the hard palate, as the posterior edge had been considerably eroded by the pressure of the growth. In this way the tumor was fully exposed, and was found to be attached to the body of the sphenoid. It fitted the whole of the naso-pharyngeal cavity, and sent prolongations into the right speno-maxillary fossa and right nostril, pushing the septum against the external wall of the left nostril, and completely occluding it.

The bony walls of the naso-pharynx were considerably eroded by the growth. It was removed by the aid of "Lack's" snare and cold wire, and strong scissors curved on the flat, with which the toughest parts were dissected away.

The bleeding was severe, but was controlled by hot sponges and pressure.

The edges of the wound in the palate were brought together by silk sutures, and a sponge left in the post-nasal space for twenty-four hours and then removed.

The laryngotomy tube was allowed to remain in for three days.

The boy is now doing well, and returns home to-morrow. The wound in the palate has healed, but some of the stitches broke out, and there is still a small opening near its junction with the hard palate. This, though interfering somewhat with his speech, has the advantage of enabling us to observe the condition of the parts, and to treat the atrophic state of the naso-pharynx.

An operation at a future time may be attempted to close the wound and straighten the septum, or a suitable obturator may be worn.

The wound in the neck is quite healed, and gave no trouble.

The incontinence of urine and drowsiness from which the patient suffered has completely disappeared.

The tumor is a pure fibroma, dense and tough.

Mr. Butlin said the tumor was the largest he had ever seen taken from the naso-pharynx, and he thought it must have opened its way into one, if not both, of the antral cavities by absorption of the bone. It appeared more likely to be a fibroma than a sarcoma, and the operation bid fair to be a complete success. But he was afraid the hole in the palate was not likely to close.

Mr. Spencer had on the previous occasion expressed the opinion that the tumor belonged to the upper jaw, and should be operated upon through a facial wound. He thought that the case should be carefully watched, and if there were signs of renewed growth, this measure should be undertaken early. In a similar case the growth extended out into the sphenomaxillary fossa behind the antrum towards the temporo-malar and cheek region.

Dr. FitzGerald Powell in reply thanked Mr. Butlin and Mr. Spencer for the kind way in which they had alluded to his case.

He did not think that the growth had invaded the antrum, and he was quite certain it had not reached it from the nose, but it was possible that it had done so from behind, through the sphenomaxillary fossa. However, on the removal of the tumor, from its appearance and general contour he felt quite satisfied that he had got it all away. The prolongations of the growth, one into the nose and another which filled the pheno-maxillary fossa, were quite intact, and the growth itself was so tough and firm that it would have been impossible to break away any part of it without being able to recognize it.



There were two interesting points in connection with such tumors. The first was the difficulty in determining the extent and attachments of the tumor, and indeed the impossibility of doing so until the palate had been split and the growth exposed. The second was with regard to the diagnosis at an early stage.

This patient two years ago had been an in-patient at a London general hospital for six weeks, and was said to be suffering from a nevus of the throat (this was the history given by the boy's father), and he thought it was quite possible for such an error to be made at an early stage when frequent and serious bleedings were occurring.

#### **Case of Intractable Aphonia with Occasional Apsithyria.**

Shown by Dr. Pegler. A girl æt. twenty-two, a school teacher, had long been liable to temporary loss of voice on catching cold.

In February, 1899, she suddenly lost it altogether and, except for a slight recovery in response to a local galvanic application by the family doctor, had since been not only unable to speak, but often could not even whisper, and in the months of July and August following had either carried a conversation book about with her, or had communicated with her friends on her fingers. She came as an out-patient to the Metropolitan Throat Hospital in November. On examining the larynx a stammering action of the vocal cords was all that could be seen on attempted phonation, but the stimulus induced by probing the larynx in any situation was sufficient to create adduction and production of tone. The laryngeal electrode was applied to the vocal cords systematically about three times a week for a month, resulting in considerable improvement. The glottic chink was then elliptical, the internal thyro-arytenoid being mainly affected. More latterly much of the improvement fell off, the arytenoid muscle became also paretic, causing the triangular glottis, and the girl had on more than one occasion become apsithyric again, so that there was distinct retrogression, and the usual treatment having so far failed, fresh suggestions were invited from the society. The family history was noteworthy. Paternal grandfather epileptic; mother liable during her pregnancies to violent fits of hysteria. Two brothers, out of a family of six living, were epileptics. Patient herself had shown no other manifestations of hysteria.

Dr. Herbert Tilley gave details of a case of an inveterate nature in which very strong intra-laryngeal faradic shocks produced no result whatever, not even temporary improvement, neither had any other sudden painful shock been of avail, and he asked Sir Felix

Semon if he knew of any successful means of treating such cases. In the case referred to by the speaker, the latter advised isolation, Weir Mitchell treatment, and then when the system was in a healthy condition the application of the strong faradic current.

Dr. Bennett suggested that breathing exercises should be tried. He had recently, after two or three years of trouble with a patient who had been to several hospitals, tried these exercises systematically; the voice after a short time completely returned. No other treatment, such as faradisation, etc., had done any good. The patient had now been several months without return of aphonia. He should say that in the case under discussion the upper-chest breathing was very bad; in fact, her whole method of breathing was irrational.

Dr. Bronner recommended the trial of the faradic current with the metal brush. It was extremely painful, but most useful. He had treated a servant some months ago who had been aphonic for several months, and in fact was about to be dismissed; he tried the above treatment, and she was cured almost immediately.

Sir Felix Semon looked upon cases such as had been mentioned in the discussion, in which, apart from the aphonia, there was functional paralysis of the whole apparatus of articulation, including the movement of the lips, as examples of Charcot's "hysterical mutism;" they represented, as it were, the superlative of hysterical aphonia. In reply to Dr. Pegler's question, he stated that in his experience the vast majority of cases of hysterical aphonia could be cured in one sitting by intra-laryngeal applications of electricity, one electrode being applied to the inter-arytenoid fold, and he wished to repeat this statement emphatically, in spite of the fact that this experience of his had been recently queried in a text-book. But it was necessary to exercise very considerable energy in many of these cases. With increasing experience, he had become more and more convinced that, added to the physical inability, there was in many of these cases considerable mental perversion. When after restoration of the voice by electricity, as manifested by the involuntary cry which usually was the first sign of the restored function of the adductors, the patients were directed to use their voice, as in counting from one to ten, or as in replying to questions, many of them did not make the least effort, and showed themselves as wilfully obstinate as possible. He always insisted, in view of this mental perversion, and of the danger of one's therapeutic efforts being afterwards misrepresented to the patient's friends, that a friend—or, if possible, the patient's general medical

attendant—should be present when intra-laryngeal faradisation was applied. He instanced one case, occurring in Dr. Playfair's practice, of the very worst form of general hysteria, in which intra-laryngeal faradisation, sufficiently strong and sufficiently long-continued, had succeeded in restoring the voice in the first sitting, but only after very severe applications, and emphasized the necessity of persevering with one's efforts until this result had been obtained. Failure in the first sitting almost always meant the patient's non-reappearance for the second. Whilst thus extolling the effects of intra-laryngeal faradisation, he wished to state that a few of his cases had remained rebellious to it, and to every other form of treatment recommended, such as hypnotism, articulation exercises, use of internal remedies, change of air and residence, attempting to make the patient speak loudly when awaking from chloroform narcosis, etc. In one such case the voice had been restored by the unexpected application of a cold water douche; in others, this remedy too had failed. He particularly remembered the case of a major in the army, a strong, powerful man, and the very last whom one would expect to become a victim to hysterical aphonia. This patient assiduously tried everything that was suggested, because loss of his voice of-course meant professional ruin to him; however, everything failed. Fortunately, however, in this case, as in all other rebellious cases known to him personally in which medical art had failed, the voice one day without any external cause returned as suddenly as it had disappeared. With reference to Dr. Tilley's question, whether local treatment was likely to be more successful after a previous course of Weir Mitchell's treatment, he could not answer it, having had no experience with regard to this special point. Finally, with regard to a question of Dr. Pegler's asking which laryngeal muscles were chiefly affected by hysteria, Sir Felix said that ordinarily, in his opinion, the whole group of adductors were concerned. In cases in which the inter-arytenoid muscle only was affected, with the well-known laryngoscopic image of a small triangular opening in the hindermost part of the glottis, the prognosis in his experience was not nearly so good; but then he thought in a good many of these cases the paralysis was not merely functional, but that the small inter-arytenoid muscle had actually undergone trophic changes, and some of these cases in his experience had permanently resisted every form of treatment, and had remained uncured.

In reply, Dr. Pegler said that the patient being always accompanied by friends, the latter had been often able to judge of the



comparative facility with which the voice could be coaxed back by a probe or electrode in the larynx. The faulty breathing was most apparent; the chest muscles also seemed to stammer in a certain sense, and she could only count some six figures before requiring to take a fresh breath. The spirometric reading was 50 per cent below par, and the patient was under special treatment and in expert hands for that defect. Every precaution had been taken to allow the muscles of respiration free play by wearing suitable clothing in place of the old-fashioned tight corsets.

### **Case of Naso-Pharyngeal Growth (? Sarcoma).**

Shown by Dr. Pegler. A man, æt. twenty-seven, complaining of complete inability to breathe through his nose for four years, and occasional profuse attacks of nose-bleeding on making the attempt. This case had some interest through having first come under observation at the Metropolitan Throat Hospital about two and a half years ago, when the following note was made: "On digital exploration of the naso-pharynx a soft polypoid mass is felt, much like adenoids, dependent from the roof and posterior wall, chiefly to the left of mesial line. Being easily detached, two fleshy masses were expelled, one from each nostril, and the breathing became quite free. Sections of the material consisted of small-celled apparently lymphoid tissue." The patient did not return to the hospital till January, 1900, and the nasal obstruction was then absolute. Inspection from the front showed a dark, softish, vascular and brittle growth in the right nasal chamber, which space it was expanding posteriorly. In the left naris the septal mucous membrane was turgid, and freely bled on the least touch. In the naso-pharynx a large lobulated mass could be felt depending from the roof. The free edge of the septum was difficult to reach owing to its absorption. A piece of the mass was snared off, and sections shown under the microscope displayed mixed cells—small, round, and spindle, with no structural disposition. Lymphoid follicles and gland-cells were absent.

Dr. Herbert Tilley said he had made a digital examination, and found a soft vascular growth occupying the post-nasal space and spreading forwards into the nose; the posterior portion of the vomer had also been destroyed, and he thought it high time to proceed with the radical operation, after first splitting the soft palate and performing a preliminary tracheotomy. This course had also been suggested by Mr. Butlin.

## THE LARYNGOLOGICAL SOCIETY OF LONDON.

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*Fifty-Fifth Ordinary Meeting, February 3, 1900.*

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F. DE HAVILLAND HALL, M.D., President, in the Chair.

A report from the Morbid Growths Committee was read by the secretary. The committee reported that sections made from tissue handed to them by Dr. Cresswell Baber from his case of nasal tumor (see *Proceedings* for June, 1899, page 109) showed no evidence of malignant disease. They also reported that the tumor of the ventricular band shown by Dr. Furniss Potter (see *Proceedings* for November, 1899, was a fibro-angioma.

The following cases and specimens were shown:

### **A Case of Complete Fixation of the Left Vocal Cord.**

Shown by Mr. Wyatt Wingrave. A girl æt. nineteen, born and until lately resident in India, complained of weakness in her singing voice and huskiness in her speaking voice, of gradual onset, about four months ago. There was also some dyspnea on exertion and singing. She had always been somewhat pale.

When first seen, about a fortnight ago, the left vocal cord was fixed in the cadaveric position, its texture and color with the rest of the larynx being normal.

There was no definite evidence of organic interference with the recurrent laryngeal, neither was there any history or collateral sign of local inflammation or hysteria.

She was ordered complete rest from singing and nerve tonics.

The President said that evidently the condition had altered lately, as the cord was now fairly moveable. Such cases of paresis were generally the result of some neuritis, and he thought this case probably had a similar origin.

Mr. Wyatt Wingrave said it was very gratifying to find that the cord was now moving. The case was interesting because only one cord was involved and that one the left.

### **An Unusual Form of Ulceration of the Throat in a Patient the Subject of Syphilis.**

Shown by Mr. Wyatt Wingrave. A male, æt. twenty-five, was first seen on January 16th last, when he complained of pain in the throat and inability to make his teeth meet, of four months' duration and gradual onset.

A deep, ragged ulcer with fleshy projections was seen in the right post-molar fornix, from which a firm edema extended to the whole of the soft palate and uvula; in appearance it was translucent, with milky patches. Movement of the manible was painful, and the incisors did not meet by a quarter of an inch. Deglutition was difficult but painless. The submandibular and supra-clavicular lymphatic glands were thickened. The patient was very anemic, and complained of great weakness and loss of flesh.

There was a history of syphilis five years ago, also of renal colic twelve months ago. His wisdom teeth were present.

He was at once ordered potass. iodid. and bichloride of mercury.

The edema is considerably reduced. He is free from pain, and can now masticate without much difficulty.

The appearance and physical character were at first somewhat suggestive of malignancy (sarcoma), but so far the result of treatment points to syphilis.

The President said this case reminded him of a similar one under his care at Westminster Hospital, which also had a history of syphilis—a man with gumma in the throat. He improved under large doses of iodide of potassium, and was discharged as cured. About a year later he came again with the same complaint, and again improved on the same treatment and was discharged. A few months later he was admitted a third time, and on this occasion iodide of potassium had little or no effect upon him, and eventually he died of malignant disease. At the commencement he thought his diagnosis of syphilis had been confirmed by the good results obtained from treatment by potass. iodid.

### **Case of Nasal Polypi with Suppuration and (?) Absence of Maxillary Sinuses.**

Shown by Dr. Lambert Lack. The patient, a man æt. twenty-eight, came under my care complaining of nasal obstruction and purulent discharge, with a disagreeable odor in the nose. The polypi having been removed, the pus appeared to flow from under the anterior ends of the middle turbinates. After wiping the discharge



away and bending the patient's head forward it reappeared in large quantity. On transillumination the cheek on both sides appeared quite dark, and the patient had no subjective sensation of light. The diagnosis of antral suppuration was now considered almost certain, and the patient was advised to have both antra punctured from the alveolar margins. This was accordingly attempted under gas, but although the antrum drill was forced in for its full length no cavity was reached. I next attempted puncture from the inferior meatus of the nose, and used considerable force in two different spots, but with no better result. It seems, therefore, that the antra must be very small, if not entirely absent. The case is a somewhat embarrassing one, as the patient is naturally disappointed. I have brought him forward as a very rare—in my experience an unique—case, and I should be glad to know if any members have had similar experiences.

Mr. Spencer suggested, in the absence of any evidence of a collection of pus in the frontal sinus, that the best method of treatment would be to remove the inferior turbinal on the left side. It must be one of those convoluted turbinals which form a gutter in which pus collects. He had seen such a case. With regard to the osseous condition of the nose, he had seen a man in which this condition was much more marked than in the case under discussion. On tackling the nose, he started with the idea of doing what he advised here, inferior turbinectomy under an anesthetic, but there was so much bony thickening of the outer wall of the nose that he had to bore his way right back to the naso-pharynx until he could pass his finger through the nose. A good deal of hemorrhage resulted, and plugging had to be resorted to. This young man, who had had a swelling for several years, was now in a most satisfactory condition.

Dr. Pegler could see no justification for any interference with the inferior turbinal body. He inquired if the cavity of the antrum had been explored by means of Krause's opening. He had no doubt that Dr. Lack would remove the diseased portion of the middle turbinal from which some polypus buds could be seen sprouting, after which the source of the pus might perhaps be more easily traced.

Dr. Herbert Tilley thought it probable that there was a small antrum on one or both sides, and reminded those present of Ziem's paper on antral suppuration read before the British Medical Association when last held in London. He then pointed out that the antrum may be represented by a mere dehiscence in the bone. The speaker questioned the probability of an antrum so small as that producing so much suppuration as in Dr. Lack's case; possibly ethmoidal disease was present also. He (Dr. Tilley) had just experienced a

similar difficulty in finding an antrum situated high up in the maxillary bone, the perforator entering one and three-quarter inches before striking the pus. He should advise in Dr. Lack's case removal of the anterior half of the middle turbinate, and exploration of the antrum from the middle meatal region, if necessary making a large opening into it in this position. He had recently operated upon a young man in whom the naso-antral wall in the inferior meatus was so thick that the heads of two strong burrs had been broken off in the attempt to enter the antrum in this position, consequently the operation undertaken for exploration of the antral cavity developed into one for removing foreign bodies from the nose.

Dr. Scanes Spicer, understanding that there had been polypi and suppuration on both sides, thought the probable explanation of this case was that a traumatism had deflected the septum and initiated inflammatory changes in the middle turbinals. The left nose was now almost functionless, from the approximation of the septum and inferior turbinal combined with alar collapse, and the right nose had to do a double share of work, a state of affairs which tended to maintain congestion, suppuration, and recurrence of polypus in the middle turbinals. From the cursory examination then alone possible and the history given, he thought the ethmoidal disease sufficient to account for the symptoms and course of the case, without assuming that the antra (which were doubtless small) were suppurating.

Dr. Lambert Lack, in reply, said that he agreed that it was a case of ethmoidal disease. He had brought the case forward because of the remarkable way in which it had simulated antral suppuration, and because of the failure of the attempts to perforate the antrum. The fact that the cheek was opaque on transillumination was explained by the osseous condition. He could not insert a trocar in any direction. He thought there was probably suppuration in the ethmoidal cells, and he intended to remove part of the middle turbinate and open some of these cells, and he would also at the same time endeavor to open the antrum from the middle meatus as Dr. Tilley suggested.

### **Case of Pachydermia Laryngis.**

Shown by Dr. Jobson Horne. The patient, a married woman at twenty-three, had been troubled with hoarseness and dryness of the throat for nearly two years. Aphonia had developed gradually two years previously, during her first pregnancy, and she had reached the sixth month of another pregnancy.

Both ventricular bands were considerably thickened, with little or no edema. The left band presented a longitudinal grooving on its inner aspect, and into this there passed during phonation a wedge-shaped excrescence of the right band. The free edge of the epiglottis was a little rounded. The cords themselves, though partially obscured to view, moved freely and appeared natural, and so did the arytenoid and inter-arytenoid regions.

The examination of the thorax yielded no signs of tuberculosis, nor was there any family or personal history suggesting tuberculosis; but the sputum had not been obtainable for examination.

There was also to be noted some chronic pharyngitis and atrophic rhinitis.

Dr. Jobson Horne was inclined to regard the case as one of pachydermia laryngis, but what had given rise to the condition was not at present very clear.

Dr. Dundas Grant thought from the appearance of the larynx that it was a tubercular pachydermia, and that it was not primary but secondary to tubercular disease. Perhaps Dr. Horne would bring the case before the society on a future occasion.

Dr. Scanes Spicer also thought this case was one of a chronic tubercular laryngitis, the mass of growth being on one side only, extending the anterior two-thirds of the cord, and there being no protuberance corresponding cupping over the opposed vocal processes.

#### **Case of Laryngeal Affection in a Tubercular Patient for Diagnosis.**

Shown by Dr. Cathcart. The patient, a male æt. twenty-six, unmarried, came under my care at the London Throat Hospital last week. He complained of chronic hoarseness, which began at the end of September, 1899. The family history is good, except that two brothers have died of consumption. For some months prior to July, 1899, patient had been losing weight and spitting blood. He had no night-sweats, and only a slight cough. At that time tubercle bacilli were found in the sputum.

During August he went for a holiday, and gained weight slightly, and also ceased to spit blood. In the beginning of September the sputum was again examined, but no tubercle bacilli were found. At the end of September he began to get hoarse, and has been getting gradually worse. His general condition at present is better than it has been for some time. He is not losing weight or spitting blood, and has a very good appetite. When his larynx was examined last week it was found to be very irritable, red and inflamed; the cords



were red and thickened. There was no swelling at the posterior part or over the arytenoid cartilages, but there was a slight uniform swelling below the anterior commissure. I shall be glad to have the opinion of the members on the case.

Dr. Clifford Beale would be rather inclined to describe the condition as one of simple irritation due to a local cause, which in this case was obviously subglottic. He did not think that the appearance was characteristic of tubercle. It was a matter of common observation that mucus might collect and remain for a long time in the anterior commissure of the cords, and he had watched cases for several weeks in which such collections of mucus were always present. Dried and decomposing mucus was apt to give rise to irritation if undisturbed by coughing, and he thought that the subglottic swelling in this case had probably arisen in this way. Infection of such irritated areas by tubercular mucus from below was always likely to happen, and hence he should always advise early treatment by removal of such mucus with a mild astringent.

The President said the condition of the larynx reminded him of that seen after tracheotomy, where the irritation of the tube had caused growth of granulation tissue below the vocal cord; he would agree with the views of the previous speaker.

Dr. J. Dundas Grant said the appearance reminded him of cases he had dissected of laryngeal and pulmonary tuberculosis, in which there were shallow oval ulcers on the mucous membrane of the trachea. The fact that the patient had evidence of tubercular disease made it only natural to suppose that the appearance in the trachea was due to tubercular disease.

Dr. Cathcart said that the opinion of the majority of the members was that the ulceration was tuberculous. Several had suggested that it was perhaps syphilitic, but on questioning the man no trace of a syphilitic history could be found. The septum had been examined that day, but there were no tubercle bacilli present. He intended to treat the case as one of a tuberculous nature.

### **Case of Bulbar Paralysis.**

Shown by Mr. Waggett. A man æt. sixty-one, of temperate habit, and denying syphilis, presented the condition of progressive muscular atrophy, involving the region of the bulbar innervation as well as other parts.

Symptoms commenced in the spring of 1899 with difficulty in swallowing, lisping speech, and wasting and paresis of the hand muscles. Later cramps had been experienced in the legs and inability to walk securely.

At the present time there was paresis of the lips; atrophy, tremor, and paresis of the tongue. Paresis of the palate more marked on the left side, and causing escape of air through the nose during speech. The most marked symptom was great and increasing difficulty in swallowing. This symptom had slightly decreased since galvanism had been employed. On one occasion temporary diplopia and a fluttering in the ear had suggested a recent spread upwards of the nuclear degeneration.

With regard to the larynx, when first seen a fortnight ago there was fixation of the left cord in the middle line, with abductor paresis of the right cord. At the present time there was marked abductor paresis on both sides.

The question of tracheotomy was raised, and experienced opinion was sought as to the real value of galvanism in the treatment of the pharyngeal paresis.

The President said he had experienced great difficulty in diagnosing a case of commencing bulbar paralysis where there was no impairment of the movement of the tongue. The patient was brought to him on account of the attacks of severe dyspnea. On examining the vocal cords he found some paresis of the abductors, with a certain amount of adductor spasm.

Dr. Dundas Grant said that the general features of the case confirmed Mr. Waggett's opinion that it was part of a general muscular atrophy, or anterior poliomyelitis, the first interossei and trapezius muscles having almost completely gone.

Sir Felix Semon, in reply to Mr. Waggett's question, said that in the early stages of bulbar paralysis methodical use of the constant current sometimes greatly improved the patient's swallowing. He had had several cases which had so improved.

The President added that his case had improved under the use of galvanism.

### **Case of Thyrotomy for Tertiary Syphilitic Laryngitis.**

Shown by Mr. Spencer. A man *æt.* thirty, on whom he had performed thyrotomy three months before. A quantity of very tough fibrous tissue was removed, along with a portion of the right vocal cord.

The man had been under observation for a year, and the laryngeal stenosis had gradually increased in spite of full doses of iodide and mercury, until he had dangerous dyspnea at night.

The choice of treatment then lay between thyrotomy and tracheotomy. The former had been selected because the larynx was al-

ready filled with such masses that no voice could have been anticipated after tracheotomy. Moreover, in a former almost identical case, in which he had done tracheotomy, the patient when drunk got his tube out, could not replace it, and was asphyxiated very quickly.

At present the patient could breathe well at night, and had gone back to work. He had at present only a loud hoarse whisper.

There had been some recurrence, but the patient had returned, and was again taking iodide in forty-grain doses.

The President said from their experience it was difficult to say what was the best thing to be done. This case looked as if it were contracting again and tracheotomy would be required. He had had a distressing case in which tracheotomy was done; the growth continued into the trachea, and tracheal stenosis resulted in spite of potass. iodid. The patient went to several London surgeons, but there was nothing to be done. He then went to Paris, and died on the operating table. The President asked all members to bring such cases before the Society, that they might solve the question as to the best mode of treatment by the consideration of a series of cases.

#### **Case of Ulceration of the Pharynx for Diagnosis.**

Shown by Dr. StClair Thomson. The patient, a man *æt.* sixty-four, has complained of sore throat for three months. There is no history of syphilis. When first seen the left tonsil was covered by a "wash leather" slough, which also extended slightly on to the soft palate and anterior pillar of the fauces. On examination with the mirror the same condition was observed passing down nearly as far as the pyriform fossa. Some days later the slough separated and showed an ulcer with raised edges and somewhat hard on digital examination. There is no glandular enlargement.

Sir Felix Semon said there could be little doubt as to the malignant nature of the ulcer.

Dr. Tilley said the hardness of the growth confirmed the view just mentioned.

#### **Cleft Soft Palate and Well-marked Post-Nasal Adenoids.**

A case of a boy *æt.* thirteen, with cleft soft palate and well-marked post-nasal adenoids, was also shown by Dr. StClair Thomson.

At a special meeting held February 3d, at 4:30 p. m., for the purpose of discussing the question, it was proposed by Dr. Scanes Spicer, seconded by Sir Felix Semon, and carried unanimously: "That it was desirable that at all International Congresses there should be full and separate sections for Laryngology and Otology."



## NEW YORK ACADEMY OF MEDICINE.

### SECTION ON LARYNGOLOGY AND RHINOLOGY.

Stated Meeting, February 28, 1900.

Wendell C. Phillips, M.D., Chairman.

#### **Paralysis of the Left Vocal Cord.**

Dr. Joseph A. Kenefick exhibited a man having paralysis of the left vocal cord. He gave a history of syphilitic infection twenty-five years ago. The pupils were unequal and he experienced difficulty in swallowing. There was an expansive pulsation over the pericardium and unequal radial pulses. A probable diagnosis had been made of aneurism of the aorta pressing on the recurrent laryngeal nerve.

Dr. Francis J. Quinlan said that he had now under observation a somewhat similar case, namely, aneurism of aortic arch, an interesting feature of which was the "tugging" on the larynx.

#### **Angioma of Posterior Pillar.**

Dr. Talbot R. Chambers, of Jersey City, presented a boy of sixteen who, three years ago, had been injured by a stick running into his throat. One year later something had been discovered in the throat, and recently there had been difficulty in swallowing. Examination showed a bluish tumor on the anterior aspect of one of the posterior pillars. It measured  $1\frac{1}{2}$  by 1 by  $\frac{3}{4}$  inches. He purposed to remove this growth with the hot snare under chloroform anesthesia. He looked upon it as an angioma. Having had some experience with this class of tumors, he was not so afraid of operating on them as he would have been simply from looking at the structure of such a tumor. He had recently removed an angioma of the orbit and optic nerve, and had not experienced any unusual hemorrhage. In the case presented he feared there would be a good deal of bleeding because of the softness of the tissues.

Dr. Wendell C. Phillips said that eight or ten years ago he had reported a case of very large angioma of the uvula. That patient always maintained that the growth had developed shortly after taking a poisonous dose of aconite. In that instance he had removed the growth with the galvano-cautery loop, and much to the surprise of every one present there had been almost no hemorrhage. The man had recovered perfectly, and had had no recurrence so far as known.

Dr. Jonathan Wright said that such growths were very rare in this situation. He had seen one of them situated at the base of the tongue and hidden in a mass of lymphoid tissue. He had had this woman under observation for three or four years, and had not been able to observe much increase in its size. As the growth had given rise to almost no symptoms, he had not felt disposed to remove it. Of course, if the loop were applied close to the base there would not be much hemorrhage, but if, in sessile tumors, the grasp were made at some distance from the base there was apt to be very profuse hemorrhage.

Dr. M. D. Lederman said that digital examination of this growth revealed no pulsation. The superior portion of the mass seemed to involve the tonsillar tissue. He recalled a case of a female, thirty-five years of age, with a history of coarse voice. Examination showed a reddish growth on the anterior third of the left vocal cord. The mass was removed with the ordinary laryngeal forceps, under cocaine, and though the patient coughed up a little blood at the time of the operation, no further trouble was experienced. Macroscopically the tissue appeared to be angiomatous in character.

Dr. James F. McKernon said that he had operated upon an angioma of the naso-pharynx about one year and a half ago. It was situated behind the soft palate, to the left of the median line. He had attempted to remove it with the galvano-cautery snare, and had succeeded, but there had followed a free and persistent hemorrhage. After repeated packings he had attempted suturing, but the latter had been impracticable until he had split the soft palate. A catgut of medium size had been used, and then the palate had been sutured with iron-dyed silk. About five months ago he had seen an angioma in a case in which there had been such profuse secondary hemorrhage that it had seemed almost necessary to resort to saline infusion. It had been necessary to keep up the packing in this case for a week.

### **Papilloma of the Vocal Cord.**

Dr. Francis J. Quinlan presented a woman, about forty-five years, whom he had first seen about one week ago. Examination had shown a new growth of a waxy appearance, and occurring without infiltration of the glands, soreness or hemorrhage. According to the history, the hoarseness commenced about six months ago and set in after a spell of coughing. The growth resembled the ordinary papilloma, but differed in color. It occupied the anterior two-thirds of the right cord.

**Alarming Hemorrhage Following the Removal of the Tonsil.**

Dr. Quinlan then narrated a case in which there had been an alarming hemorrhage after excision of the tonsil. It had occurred in his hospital service. After two or three hours hemorrhage had suddenly set in and was very profuse, not yielding to the ordinary measures or even to the use of the suprarenal extract. The man had become so blanched that saline infusion had been resorted to. There had been no difficulty in getting out the tonsil, which was a small one, and examination of the mass showed no anomalies of the blood supply. The man had remained in bed after the operation and was there at the time the hemorrhage occurred. Dr. Butt's instrument for making compression was not at hand at the time, and therefore had not been tried, but he was skeptical about such an instrument proving very satisfactory in a large proportion of cases, as the point of bleeding must be ascertained and direct pressure maintained until organization of the clot was established.

Dr. Lederman spoke of a case upon which he had operated. It was the largest tonsil that he had ever removed, and the operation had been done with the galvano-cautery. Five days after operation the patient had swallowed a piece of toast, and this had carried away the eschar, with the result that such a severe hemorrhage had occurred as to demand a hasty summoning of the nearest physician. Cocaine was sprayed upon the part, and the hemorrhage had then stopped, but it had recurred later and had been checked by the application of a solution of alum and ice. Large blood clots had formed, but with careful manipulation these were removed without much secondary bleeding. The history of the case was mentioned as a warning to emphasize the importance of the after treatment in these cases. This hemorrhage occurred five days after the removal of the tonsil, though no blood was seen at the time of operation. Careful directions as to the consistency of the food should be given, especially when the cauterized tonsillar surface has been rather extensive. Have also seen annoying bleeding follow after the removal of the eschar from the inferior turbinals. It is judicious to practice "masterly inactivity" after such cauterizations.

Dr. McKernon spoke of a case that had been presented at the last meeting. It had been operated upon since that time, and the growth found to involve almost the entire lower portion of the larynx, the esophagus and the pharynx. Tracheotomy had been done two days prior to operation. Five days after the operation pneumonia had set in, yet, strange to say, the patient had recovered.



### **Secondary Hemorrhage Following the Use of the Suprarenal Extract in Intra-Nasal Surgery.**

Dr. F. E. Hopkins, of Springfield, Mass., read a paper on this topic. He said that after having used the suprarenal extract for some time he had become so enthusiastic over it that he had found it difficult to charge anything against this new remedy, but he had been compelled to take cognizance of a tendency to secondary hemorrhage, coming on from two to six hours after operation. The first case had been that of a young woman from whom he had removed a posterior exostosis of the septum under the combined effect of cocaine and suprarenal extract. Hemorrhage had occurred three hours later. He had occasionally observed in patients an idiosyncrasy to its use, violent coryza sometimes developing after its application to the mucous membrane. Sometimes its use would be followed by sneezing, lasting for hours. From numerous inquiries, made among his friends and among representative laryngologists, it was evident that the consensus of opinion indicated that there was an increased tendency to secondary hemorrhage after the use of suprarenal extract. In two cases following its use the hemorrhage was alarming. Dr. Hopkins said that he had used the extract in a number of acute and subacute inflammations of the upper-air passages, and almost always with satisfaction. The final relaxation following the combined use of both cocaine and suprarenal extract was found to be greater than after the use of cocaine alone.

Dr. Hopkins thought one had no right to speak of percentages in regard to solutions of the suprarenal extract, because the quantity actually dissolved was not known.

Dr. Jonathan Wright said that it had always seemed to him that the profound contraction of the vessels resulting from spraying the extract into the nasal passages should favor an undue relaxation subsequently and consequently conduce to hemorrhage. He had, therefore, adopted the plan of smearing the powder only on the field of operation, using a moistened probe for this purpose. The same reasoning would apply to cocaine, and here also he preferred to use a pledget of cotton to a spray. He had used the extract in half a dozen cases of adenoids with no untoward results. (In adults without ether.)

Dr. W. H. Bates said that a physiologist who had been studying the properties of suprarenal extract, Dr. Cleghorn, of Hartford, had recently written to him that there was good reason for believing that the action of the extract was upon the muscle directly, and not upon

the nerve at all. This investigator had found that the suprarenal extract was the most potent agent known for stimulating the action of the heart, and the same result had been obtained when a part of the heart was experimented on which was devoid of nerves. When the extract was injected intravenously, the blood pressure rose considerably, but this was not followed by a fall, showing that there was no subsequent dilatation of the vessels. If these physiological experiments were trustworthy, there would not be any greater tendency to secondary hemorrhage after its use than where it was not employed at all. When operating on the nose, he personally expected secondary hemorrhage. His own experience in nose and throat work had been that there was less secondary hemorrhage with the suprarenal extract than where it had not been used.

Dr. Lederman cited a case in which he had endeavored to relieve an acute coryza, in a professional friend, by means of an insufflation of the very finely powdered extract. Sneezing had come on immediately and had lasted all that night. There had been, during this time, a continuous discharge of a watery fluid from the nose, and the body temperature had risen to 101°F. An application of a *solution* of the extract on the previous day had not caused this irritation. His own custom, in intra-nasal surgery, was to introduce a piece of spunk over the wound impregnated with some antiseptic powder, as nosophen, and remove the plug the following day. The advantage of the spunk, is that no secondary bleeding follows its removal, as no "sticking" to the wound occurs, which so frequently happens when cotton or gauze is employed even if covered with some oily product.

Dr. Emil Mayer said that for the purpose of comparison he would take cocaine. All agree as to its wonderful help to us and yet it has its limitations and there are many of us who have passed uncomfortable hours because of its use. So, therefore, in regard to suprarenal extract, we have no right to speak solely of its great value without remembering that there are instances where it may be harmful. He could not state too emphatically his belief that in the operations for adenoids and tonsils the suprarenal extract should not be employed under any circumstances, because of the danger of secondary hemorrhage. In the speaker's opinion it was better to have whatever loss of blood there was to be at the time of operation when he was there to control it if need be, than to have it occur some hours later when skilled help might be hard to find.

It had always been his custom to pack the nostril after operations and this precaution was followed when the suprarenals were employed. Nevertheless he had seen more cases of secondary hemor-

rhage when the extract had been used. It was also noticeable that it took a longer time for the blood to cease to appear in the discharges.

A case was cited in which the suprarenal extract was employed and the secondary hemorrhage having been profuse, the subsequent oozing lasting for many days, so the other side was operated on under cocaine alone. There was very little bleeding and in two days the discharges were free from blood. He did not wish to be understood as being hypercritical, for the action of the extract was really wonderful, but he wished to emphasize that it had its limitations. It was perfectly natural that when the muscular coats of the arteries contracted so as to produce the ischemic effect, they must dilate again before final contraction. In this dilatation with relaxation of the muscles lay the danger. In the nose we were usually able to reach the bleeding part, but in the pharynx or naso-pharynx hemorrhage serious consequences might result.

Dr. W. Kelly Simpson said that he had removed a very large adenoid under the suprarenal extract, and without any unpleasant consequences. He did not think it was possible to use a solution of this extract in an atomizer, without filtration. The remedy had the great advantage of giving a clear field for operation, and it did not seem to him that with this extract secondary hemorrhage was either more likely or less likely to occur. He had had no experience with the extract as a means of controlling hemorrhage already in progress. He had seen very intense and painful secondary rhinitis follow the use of a spray of the suprarenal extract. Like all new remedies which give great promise, it must pass through the crucible of experience before we understand its real value.

Dr. C. G. Coakley said that he had not himself found secondary hemorrhage more frequent since making use of the suprarenal extract. He had observed the irritating effect of the extract mentioned by the previous speakers, when he had made use of the boric acid solution of the extract or of the powdered extract. Thinking that this untoward result might have been due to direct infection from using an improperly sterilized solution of the extract he had made use, for some months past, of the extract dissolved in a one per cent solution of resorcin. He had now in his possession some of this resorcin solution, which had been prepared last May, and it was still free from decomposition, and was as active as ever. If the suprarenal extract could be kept in contact with the surface which was actively bleeding, it would check the hemorrhage. This he had observed in two or three instances, notably in a case in which there



had been rather free oozing after incision of the lingual tonsil, and again after excision of the faucial tonsils. In these instances the hemorrhage had been very promptly and completely controlled by letting the patient swallow some of the powdered extract. In the application of the extract to the turbinals, and other exostoses, he simply wipes the solution over the field of operation.

Dr. Quinlan spoke of recent experience with the extract in cases of hemorrhage. One of these had been an obstinate hemorrhage following an attempted suicide from swallowing acid. The man had been made to swallow about half a drachm of the extract, with the result that the hemorrhage had been promptly checked. In two other cases of hemorrhage, due to ulceration, a similar result had followed the use of this extract. Regarding the practice of packing the nasal cavities with gauze, or other material, the speaker said that he was of the opinion that these applications exert an intensely hydremic effect on the tissues, and that better results were obtained by avoiding the use of all packing. The irritation caused by such foreign bodies (as tampons) had seemed to him to more than counteract any possible good that might follow their use. Again he had not had many secondary hemorrhages after operations. He could not accept all the marvellous statements that had been made regarding this seemingly wonderful extract (supra-renal) but time and experience would thrash the grain from the straw.

Dr. T. R. Chambers said that he had abandoned all packing of the nasal cavities for the past three years, and he had not had any hemorrhages until he had begun the use of the suprarenal extract. He had observed these hemorrhages sometimes several days after operation, and while the extract might not have been responsible for this, it was certain that he had not met with such hemorrhages before beginning the use of the extract. Its chief value is as an aid in diagnosis in the posterior nares and for relieving superficial and ciliary ocular injection.

Dr. Bates said regarding the occurrence of rhinitis after suprarenal extract, that he had only used the powdered extract in the nose in one instance, and in that one it had caused infection. In one very active nasal hemorrhage, occurring in a "bleeder," he had succeeded in checking the hemorrhage promptly by syringing out the nose with suprarenal extract. It had recurred two or three times, but had been controlled in each instance by a repetition of the syringing.

Dr. McKernon said that he had seen some of these irritating effects from the use of the suprarenal extract, but none since he had made use of a solution of the extract in hot camphor water.

## SAN FRANCISCO SOCIETY OF EYE, EAR, NOSE AND THROAT SURGEONS.

### *February Meeting.*

The president, Dr. Henry L. Wagner, in the chair.

Dr. W. F. Southard presented to the society a man aged about thirty whose case illustrated the extensive ravages of syphilis of the throat and larynx. The soft palate is cicatricially adherent to the walls of the pharynx, so as that the naso-pharynx communicates with the pharynx only by a small hole close to the rear wall in the middle.

Dr. Southard also showed a young Russian with extensive ulceration of the larynx. No bacilli had been found after several examinations of the sputum.

### DISCUSSION.

The president thought that the second of Dr. Southard's cases was probably one of scleroma.

Dr. W. A. Martin had now a case under his care with total occlusion of the naso-pharynx from adherent palate. The patient had been treated several years for syphilis. He had removed a large sequestrum of the hard palate. The question now is, how to free the palate and keep it free. He did not consider the laryngeal case one of scleroma, since ulceration does not occur in scleroma.

The president said that the fact that the patient is a Russian was in favor of scleroma. In Austrian clinics we see these cases, and he had seen several in which there was ulceration.

Dr. Southard stated that there is dullness of the patient's chest on examination. He would have scrapings of the ulcer examined microscopically.

Dr. Kaspar Pischl presented a specimen of carcinoma of the esophagus and larynx. The patient was an engineer, aged fifty-six, who had been treated for one year for enormous hypertrophy of the turbinated bodies and also of the pharyngeal tonsil. He complained that especially in the morning he had to gag and cough to clear his throat from mucus. The nose was nearly always closed. The enlarged tonsils and adenoids were removed, and breathing became easy. Three months ago, after a severe cold, there was so serious an attack of dyspnea that tracheotomy was performed. For nine weeks after, the laryngoscope showed only swelling of the ary-epiglottic folds. Some swollen glands were felt. The temperature was always below 99°. Later the pulse became weak and irregular and over 100°, but was made regular and slower by digitalis. The day

preceding his death the temperature was  $101^{\circ}$ , pulse poor; strong again after digitalis. At 7 a. m. on the day he died, temperature  $101^{\circ}$ , pulse 112; digitalis; injection of strychnine  $\frac{1}{40}$  gr. At 10 a. m. patient died suddenly while sitting. Death certificate: Carcinoma of esophagus and larynx. *Post-mortem*: Anterior wall of esophagus slightly ulcerated and transformed into a hard, flat plate. On left arytenoid is an ulcer about 1 mm. by  $\frac{1}{2}$  mm., apparently covered during life by the much larger swollen right arytenoid. Epiglottis folded frontally. Sides of larynx fastened to surrounding tissue by infiltration of many flat glands, which, on section, clearly show a carcinomatous infiltration, and this is confirmed microscopically. The heart was soft; some old infarcts in the periphery of the kidneys. The immediate cause of death was probably septicemia.

Dr. Wagner demonstrated a specimen of epithelioma on the right side of the larynx in which the whole right side of the larynx had been excised; also microscopic section of the same.

Dr. Charles G. Levison, by invitation, reported the operation done by him recently on a patient, presented at a previous meeting, with carcinoma of the tongue and tonsil. He spoke as follows: "Dr. Wagner has asked me to describe the operation performed upon his case of cancer of the tonsil, which he kindly referred to me. The patient, though seventy-seven years of age, was in fair physical condition. Arteries good. Examination revealed a growth of the left tonsil (which was fully described by Dr. Wagner) as well as a decided glandular infiltration at the angle of the jaw. The most distressing symptom experienced was a progressive dysphagia. After consulting with Dr. Wagner, it was decided to perform a radical operation to relieve the condition, which, as a whole, was most unfavorable. According to most writers, radical operation is considered unwarranted, even in the earliest stages of the disease, as the results are almost always bad, although Mickulicz reports the case of a woman who for two years survived the operation. Before describing the operation done by me, I will give a brief résumé of the operations advocated, of which there are three, namely: Cheever's, Czerny's and Mickulicz's. All the operators advocate a preliminary tracheotomy. Cheever makes an incision along the anterior border of the sterno-mastoid, from the level of the ear to below the level of the growth, and a second incision, at an angle to the first, is carried along the body of the inferior maxilla. In this operation little cutting is advised, the tumor being removed preferably by the galvano-cautery. Czerny cuts from the angle of the mouth outward to the border of the masseter, and beyond it to the hyoid bone, sawing through the jaw between the second and third



molar teeth, and when the jaw is drawn apart the tumor is laid bare. After the removal of the growth the jaw is reunited with silver wire. Mickulicz's operation is still more formidable. He makes an incision from the mastoid to the hyoid bone, raising the soft parts from the jaw bone, avoiding the facial nerve, then resecting the ascending ramus of the maxilla. When the bone is removed the tonsillar region (without retraction of the fragment of bone) is at once exposed. Mickulicz claims great ease in reaching the desired area, ease in removing the infiltrated lymphatics and facility in keeping the wound clean. He claims great advantage in the resection of the jaw, as the contracture which results in all operations upon the bone in this region does not occur. The bone removed is partially restored by the periosteum.

"I will now briefly describe the operation as I carried it out. A preliminary tracheotomy was first performed without difficulty, the anesthesia being subsequently conducted through the tracheotomy tube. The pharynx was then plugged with gauze, which prevented any escape of blood to the trachea. An incision was made from the mastoid to the greater horn of the hyoid. The periosteum was raised from the angle of the jaw anteriorly and posteriorly, and the jaw sawed through its angle and ascending ramus by means of the Gigli saw, removing about  $1\frac{1}{2}$  inch of the same (ascending ramus). The tracheotomy and jaw resection not occupying longer than five minutes, the tumor at once presented in the wound. Exploration revealed the condition of a decidedly infiltrated pharynx and tongue, the base of the latter being reached with the greatest facility. With this condition present it was decided impracticable to go any further. The wound was closed, and despite the patient's years, he reacted perfectly from this formidable operation, which, nevertheless, was comparatively bloodless, as but two hemostats were applied, one of these being to the facial. The patient progressed without difficulty for thirty-six hours with normal pulse and temperature, and then, from no apparent cause, his breathing became rapid and he died in a few hours."

#### DISCUSSION.

Dr. Eaton had found Dr. Levison's description of the operation of great interest, and thought it well that the laryngologist should be acquainted with the general surgeon's point of view. He had seen this patient more than six months ago, and at that time there was a growth on the left side of the tongue involving the left anterior pillar with induration. He told the man that it was cancerous, and had him examined by a well-known surgeon of this city, who concurred with his opinion, and that, the tongue being involved, the operation would be a serious matter and permitted of no delay. In spite of plain warning he temporized.

NOTE.—At the March meeting ophthalmologic papers only were presented and discussed.

# ABSTRACTS AND BIBLIOGRAPHY.

Arranged and Edited by  
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with the collaboration of the  
**EDITORIAL STAFF.**

It is our purpose to furnish in this Department a complete and reliable review of the world's current literature of Rhinology, Laryngology and Otology.

Authors noting an omission of their papers will confer a favor by informing the Editor.

## I. NOSE.

**Tuberculosis of the Upper Respiratory Tract**—O. CHIARI—*Berliner Klin. Wochenschr.*, Nos. 45, 46 and 47, 1899.

This voluminous paper, which runs through three numbers of the *Berliner Klin. Wochenschr.*, is largely statistical in its nature. Among 695 cases of tuberculosis of the upper respiratory tract (nose, naso-pharynx, mouth, pharynx and larynx) there were 635 cases of laryngeal affection, or about 90 per cent. After studying the statistics of various hospitals, he reaches the conclusion that tuberculosis of the tract in question occurs in somewhat less than 30 per cent of the cases of pulmonary tuberculosis. The fact that tuberculosis of the upper air tract is so much rarer than that of the lungs has led to the view that the disease of the upper region always comes about by infection from the lungs. It is the author's endeavor to study this question in regard to each of the several regions separately.

### *Tuberculosis of the Naso-Pharynx.*

The literature of this subject is very freely quoted, and the conclusions drawn are that infection may occur in three ways.

1. By breathing in germs through the nose.
2. By contact with sputum from the lungs.
3. By way of the blood and lymph streams.

The first two are the most frequent methods of infection. In case of primary tuberculosis of the naso-pharynx we may safely assume that the infection has occurred from the inspired air. It is easy to see how infection may occur from the lungs in secondary cases, and also that in miliary tuberculosis the method of infection may be through the blood and lymph. As therapeutic deductions we have the following:

1. Every catarrh of the naso-pharynx, especially the chronic cases, should be overcome, for their presence favors the development of the bacillus.
2. Patients with post-nasal catarrh, especially children, should not be permitted to inhabit the same rooms with tuberculous subjects.

3. The various forms of tuberculosis of the naso-pharynx should be treated as thoroughly as possible. This is particularly true of the tumor form of the disease. Inasmuch as we cannot diagnose any given case by the microscope, the extirpation of every pharyngeal tonsil is justified. We may thus occasionally remove a focus of tuberculosis.

In regard to the method of infection from the naso-pharynx, numerous authors are quoted who have seen a general infection follow an imperfect removal of a tuberculous pharyngeal tonsil. The path selected by the bacilli seems to be through the lymphatics to the glands and thence into the general system. This view seems to be generally adopted.

#### *Tuberculosis of the Pharynx.*

This disease is rare. It may occur by the inspiration of bacilli or from food. Of course infection from this region may be brought about by invasion of the neighboring structures, involvement of the lymphatic glands, etc.

#### *Tuberculosis of the Tonsils.*

This form of the disease was formerly considered very rare. Of late, however, the view is gaining ground that in very many cases of long-standing pulmonary tuberculosis, the tonsils will be found to be affected. In primary cases, the disease seems to occur in the form of isolated nodules, while the secondary form is characterized by the presence of superficial ulcers, the tissues rapidly degenerating. This condition may easily be confounded with syphilis. In primary cases the whole tonsil should be instantly removed, while if the disease is secondary, we may be guided by the symptoms (dysppagia, etc.)

The methods of infection are five:

1. Through the blood.
2. Through the lymph.
3. From the sputum.
4. From inspired air.
5. From food.

The disease may also spread directly to the tonsils from the pharynx.

Mendelsohn, who has studied the question exhaustively, thinks that the tonsils exercise no protective function against the bacilli, but rather that on account of their irregular external surface they readily harbor all micro-organisms, and favor their entrance into the general system by reason of the frequent movements to which they are subjected.

#### *Tuberculosis of the Nose.*

This trouble is somewhat rare. It seems to occur in three forms.

1. An ozena-like inflammation where the discharge seems to be filled with bacilli.



2. Tuberculous ulcerations of the nose, usually occurring on the anterior portion of the septum.

3. Tubercular tumors of the nose.

The methods of infection seem to be through inspired air, sputum, blood and lymph and direct extension from neighboring parts. Tubercular tumors of the brain and its membranes seem to originate sometimes from the nasal affection; for Flatau has shown that the lymphatics of the nose communicate with the subarachnoid space.

#### *Tuberculosis of the Larynx.*

The author quotes Schech as saying that while by far the greater number of cases are secondary, still a small per cent is undoubtedly primary in its origin. This view is opposed by many writers, and the author himself says that while primary laryngeal tuberculosis is possible, still it is very difficult to prove its existence beyond cavil. Tuberculosis of the larynx appears in the form of thickenings, infiltrations, tumor-like structures and ulcerations.

The course is very variable; it may exist for years without much change and it may lead to wide-spread destruction of tissue in a short time.

The sources of infection seem to be inspired air, sputum from tuberculous lungs and transportation by the blood and lymph. Krieg maintains that in most cases the larynx becomes affected through the lymphatics passing to it from the lungs, and cites the numerous cases where a unilateral lung trouble is accompanied by an affection of the corresponding side of the larynx. His own statistics give a far higher per cent of cases where this condition prevails than do the statistics of Magenau. The author, however, is of the opinion that the most frequent form of infection is directly from the sputum.

#### *Tuberculosis of the Mouth.*

The forms of oral tuberculosis are lupus, tuberculous tumors, infiltrations and ulcerations, which, however, seldom occur as a primary trouble. The tongue is a favorite seat of oral tuberculosis.

#### *Lupus of the Upper Respiratory Tract.*

This trouble is quite often primary, for the nasal mucous membrane is a favorite point of attack. Primary lupus has also been seen in the pharynx, naso-pharynx and larynx, but less frequently than in the nose.

Conditions favorable to the infection of the upper air tract by tubercle bacilli.

First in importance is the so-called scrofulous habit. This is accompanied by great susceptibility of the mucous membranes, with a tendency to catarrh and its consequences, such as loss of epithelium, erosions, more marked development of the lymphatic glands, etc. These latter often show a stronger tendency to become diseased than in healthy individuals.

Therapeutic conclusions:

1. Destruction of all excreta of the tuberculous.
2. All persons, especially children of a lymphatic temperament should be protected from close contact with the tuberculous. Tuberculous parents should not kiss their children.
3. No uncooked milk should be taken.

Therapy proper. 1. The strengthening of weakly children, because anemia favors the development of the bacillus. 2. The curing of catarrhs. 3. The radical extirpation of all isolated tubercular foci. Thus lupus, tuberculous tonsils and pharyngeal tonsils, together with isolated tuberculous thickenings of the larynx, should be removed. 4. Extirpation of those lymph glands which stand in relation to isolated tuberculous foci would be a most excellent method of protecting the person from general infection. For various reasons this can rarely be done, and of course should never be undertaken until by a tuberculin injection, the glands in question have been shown to be really tuberculous. VITTM.

**Electricity in Diseases of the Nose, Throat and Ear**—W. SCHEPPE-GRELL—*Journ. Am. Med. Assn.*, February 3, 1900.

The principal uses of electricity in diseases of the nose, throat and ear are: 1, For illumination; 2, for cauterization; 3, for influencing vascular changes in the nasal mucous membrane; 4, for cataphoresis in cocaine anesthesia; 5, for electrolysis in the treatment of fibroid tumors of the nose and throat; 6, for operating mechanical appliances; 7, for the diagnosis and treatment of auditory nerve lesions. Galvanism and cupric electrolysis are of great value in atrophic rhinitis. In congested conditions of the nasal mucous membrane mild galvanic application stimulates the circulation by its tonic effects on the vasomotor nerves. ANDREWS.

## II. MOUTH AND NASO-PHARYNX.

**Tonsillitis**—G. H. THRAILKILL—*West. Med. Journ.*, February, 1900.

A summary of the present views of this disease. EATON.

**A Case of Recurring Quinsy Treated by Anti-Rheumatics and Thyroid Extract**—MARY E. BATES—*Woman's Med. Journ.*, January, 1900.

The patient, a boy of eighteen years, of good health, but for last two years troubled with recurring sore throat, the left tonsil suppurating and spontaneously opening regularly every month for the last half year. The tonsils were alike enlarged and of fibrous structure. Patient never had rheumatism, but was placed upon a mixture of salicylates, iron and cascara, also syr. iodide of iron. Locally tinct. iodine and a silver solution (10 grains to oz.). After six months five grain tablets of thyroid extract were given three times a day, which was continued three months, after which time the tonsils had contracted to about normal size and caused the patient no trouble. STEIN.

**A Second Case of Recurring Quinsy**—JULIA S. KAPP—*Woman's Med. Journ.*, January, 1900.

A woman of twenty-eight, never having had rheumatism, but suffering from frequent attacks of acute tonsillitis, with suppuration, since childhood.

Two-grain doses of thyroid extract were given, repeated every hour for five hours, in addition to  $\frac{1}{60}$  gr. strychnine. After two hours this was again repeated—2 gr. thyroid every hour for five hours. The following day 2 gr. thyroid at regular intervals until ten grains had been taken. After which time all acute symptoms had subsided.

STEIN.

**The Etiology of Acute Inflammation of the Tonsil**—HILBERT—*Deutsche Med. Wochenschr.*, No. 43, 1899.

At a meeting of the Society of Scientific Medicine of Königsburg, held April 24, the author read a paper on the above subject. Of the forms of tonsillitis there seem to be two great classes. In the first class the angina seems to have an independent existence, and is, therefore, an idiopathic disease. The anginas of the second class, however, either form the principal symptom of a specific infectious disease as in diphtheria, or they form the initial symptoms of such a disease as in measles, scarlet fever and the like. It is obvious that these inflammations are caused by the specific germ of the disease which they accompany. The second class, therefore, is not considered in this paper.

The first class, or idiopathic sore throats, may be separated into two subdivisions—those caused by "taking cold," and like processes, and the infectious form. Now, while it is not possible, in the present state of our knowledge, to explain just what is meant by "taking cold," still there can be no doubt that inflammations do arise from this cause.

This leaves only the infectious subdivision to be accounted for. Various authors have attributed them to the different micro-organisms that are found in the deposits on inflamed tonsils. Especially is this true of the streptococcus. Hilbert undertook a series of examinations of the oral cavities of healthy persons. He found the streptococcus so universally present that he is unwilling to concede its etiological relation to tonsillitis. He regards the presence of the streptococcus in the deposits of inflamed tonsils as merely secondary and accidental. He thinks, however, that they flourish in these deposits and may find a way through the inflamed tonsils into the circulation, and thus give rise to a general infection.

In connection with this almost universal presence of streptococci in the oral cavity, Hilbert draws attention to Flügge's assertion that in speaking, coughing and sneezing a cloud of finest watery spray is driven from the mouth. This should be borne in mind by operators as a possible source of infection in abdominal operations, etc.

VITTUM.



**Nasal Obstruction Due to Adenoids**—ROBERT M. LAPSLEY—*Med. Herald*, February, 1900. EATON.

**Chronic Recurring Membranous Pharyngitis**—JOHN O. McREYNOLDS—*Journ. Am. Med. Assn.*, December 2, 1899.

The author presents a case of a lady nineteen years of age who has fair general health, but in the throat a thick, white membrane repeatedly forms. When uninfluenced by treatment the membrane will recur two or three times a week, and each time will remain a day or two, then become completely exfoliated of its own accord, leaving the throat in an apparently healthy condition. If the membrane is forcibly removed prematurely it leaves a raw surface covered by a glairy material and readily bleeds on manipulation. This condition has continued at least fourteen months. The membrane has been repeatedly examined microscopically and the bacillus of diphtheria has never been found. Other bacteria, including streptococci and staphylococci, were found in abundance, but there was nothing to prove their causative relation.

ANDREWS.

**Tuberculosis of Pharynx**—CLEMENT F. THEISEN—*Journ. Am. Med. Assn.*, August 12, 1899.

From a review of the literature and from his own personal experience the author finds pharyngeal tuberculosis rare, while tuberculosis of the larynx is much more common. He finds no record of the condition in children under four years. Pharyngeal tuberculosis may be primary, but it is usually secondary to lung involvement. It may be coincident to lung involvement and indicate an acute general tuberculosis. It may also be secondary to tuberculous caries of the cervical vertibræ, or to tuberculosis of the cervical or axillary glands. The ulcers probably result from the breaking through of tubercles toward the surface of the mucous membrane. The breaking down of many small tubercles forms the large ulcers. The rapid extension of the ulceration is without doubt due to mixed infection. Fränkel has demonstrated the frequent coexistence in tubercular pharyngitis of the tubercle bacillus and the staphylococcus pyogenes aureus and the streptococcus pyogenes. A positive diagnosis of pharyngeal tuberculosis should never be made without a bacteriological examination, and without first trying potassium iodide. Theisen says it is really surprising how many ulcerative throat conditions, even with positive evidence of pulmonary tuberculosis, and which clinically present all the symptoms of tuberculosis, get well when potassium iodide is administered.

Not enough attention has been given to the fact that the tonsils are of considerable etiological importance, and perhaps often the seat of primary infection in general tuberculosis. The author reports one fatal case, and one case of tubercular pharyngeal ulcer half as large as a ten-cent piece, cured by the alternate application of lactic acid and orthoform in olive oil.

ANDREWS.

**A. Case of Vago-Accessory Paralysis—V. ZANDER—*Archiv für Laryngol.*, Vol. ix, Heft 3, 1899.**

The author reports a case of this nature and gives a very clear statement of the symptoms, which were as follows:

ON THE RIGHT SIDE:

Motor paralysis of the soft palate.  
Paralysis of all the laryngeal muscles.  
Paralysis of the sterno-cleido-mastoid.  
Paralysis of a portion of the trapezius.  
Sensory disturbances of the pharynx.  
Sensory disturbances of the larynx.

ON THE LEFT SIDE:

Paralysis of part of the laryngeal muscles.  
Sensory disturbances in the soft palate.  
Sensory disturbances in the larynx.

In addition there were present rapid pulse, rapid breathing and gastric symptoms.

The author's conclusion is that the lésion must be situated in the central nervous system, but at just what point could only, in the present state of our knowledge, be determined by an autopsy.

VITTUM.

**III. ACCESSORY SINUSES.**

**A New Plastic Operation after Chiselling off the Entire Front Wall of the Frontal Sinus—K. GRUNNERT—*Münchener Med. Wochenschr.*, No. 48, 1899.**

After describing the disfigurement that follows Kuhnt's operation, the author describes a procedure that he adopted with good results in a case where the front wall of the sinus was entirely removed. A vertical incision 2-3 ctm. long was made at each end of the horizontal incision along the superciliary ridge. This procedure formed a rectangular flap which, after being undermined, was readily drawn down into the furrow caused by the sinus. This flap was then denuded of its epidermal layer and stitched into place. Now from each side of the original incision flaps were loosened and drawn laterally and upward into the same depression resting upon the first described flap taken from the forehead. This procedure filled up the depression entirely, and the outer flap was covered with skin and union by first intention was obtained. It was feared that some cicatricial traction might be exerted on the upper eyelid, but such was not the case.

VITTUM.

**The Curability of Empyema of the Maxillary Antrum—L. GRÜNWARD—*Archiv für Laryngol.*, Band ix, Heft 3, 1899.**

In this valuable paper the author gives the results and his conclusions from 106 cases. In all questions of cure the conditions to

be considered are: The length of time the disease has been in existence, the nature of the secretion, the condition of the interior of the nose and of the teeth, and, lastly, possible complications. It should be remarked at the start that those cases presenting "ozena" symptoms are not considered in this paper, for they require special consideration. Many pages are devoted to grouping and analyzing these cases in every conceivable way. His conclusions are somewhat as follows:

Inasmuch as the least formidable operation which will attain the end in view is always to be preferred, the author advises that, whenever practicable, simple puncture and washing out of the cavity should be resorted to. If this can be done by extracting a tooth, so much the better. Of the twenty-three cavities so treated, forty-three per cent were healed, three per cent almost healed and three per cent improved. Forty per cent were uncured.

In choosing cases for puncture he advises that the more recent cases are most favorable, and that those cases occurring in youthful individuals offer better chances of success than those where older persons are concerned. Further, the catarrhal cases are more amenable to treatment than the purely suppurative.

In the matter of proceeding to the so-called radical operation the author is inclined to be very conservative, for, as he says, even the radical operation does not by any means insure a cure. Those cavities having the natural opening situated very high up, give a most dismal prospect of relief when simple puncture is employed, and perhaps in this class of cases one would be warranted in resorting to the radical operation, inasmuch as this gives an exit to the pus from the lower part of the cavity. Simple clearing out of the cavity effected a cure inside of three months in those uncomplicated empyemas of not more than three years' standing, where there was no nasal complication, where the mucous membrane of the antrum had not undergone marked change and where the teeth were sound.

The catarrhal cases were equally favorable, provided that the mucous membrane had not undergone much change, and when there was no secondary disease of the nose.

Suppuration of the frontal sinus prolonged the cure of two cases which otherwise corresponded to the last mentioned. These cases were treated by freely opening the cavity from the canine fossa and covering the bone with the loose mucous membrane so that the opening could not rapidly fill up and heal.

This operation, however, offers very little hope in those cases with marked bony disease of the antral walls, or loss of a large part of the mucous membrane, or with the ostium maxillare situated high up, or where the secretion is of a bad character.

Here, too, should be reckoned those cases where symptoms of ozena are present. In these last the percentages of cures is too small and the time of after treatment too long to warrant us in recommending the operation. For all these latter classes the radical operation only may produce a cure.



In closing, he emphasizes the statement that there is a large class of catarrhs which should not be operated on. These seem to produce no secondary effects, like polypi, lasting nasal obstruction, severe laryngitis, etc., nor do they seem to give rise to marked disturbances of any kind.

These cases should be treated symptomatically, the passages kept clean, hypertrophied turbinals shrunk, polypi removed, etc., and this treatment will often be most satisfactory. VITTUM.

#### IV. LARYNX AND TRACHEA.

**Speech and its Disorders**—JOHN A. CALDWELL, JR., Cincinnati—*Cincinnati Lancet-Clinic*, October 28, 1899.

The author's study consists of a somewhat exhaustive review of the present knowledge of the physiology and disorders of speech. It is classified into three separate categories, reception, retention and emission, under which headings the phenomena of speech are first studied, and then the various aphasias are considered.

STEIN.

**The Acute Inflammations of Larynx**—ALFRED GOLDSCHMIDT—*Bresgen's Sammlung*, Band iii, Heft 7.

The author gives a succinct review of the various acute inflammations of the larynx, both as they occur idiopathically and when they appear as sequelæ of the infectious diseases. The pathology and etiology are touched upon and the treatment discussed to some extent. Nothing of particular interest and nothing new is developed.

VITTUM.

**Membranous Obstruction of the Larynx**—W. JAY BELL—*Atlanta Journ.-Record of Med.*, February, 1900.

Membranous croup is the form of laryngitis in which the streptococcus is the pathogenic factor, and diphtheria, when this is the Klebs-Löffler bacillus. Intubation is the most important procedure in these cases. In fourteen intubations in the hands of the author, there were ten recoveries.

W. SCHEPPEGRELL.

**Report of a Case of Laryngectomy**—G. T. HANKINS—*Australas. Med. Gaz.*, January 20, 1900.

The patient's age was forty-two, and when seen complained of hoarseness and occasional loss of voice, and of feeling a lump in the throat when swallowing, but of no actual pain. The lump had broken and discharged pus on six occasions. There were enlarged glands below the angle of the jaw. No specific history. No external deformity in the neighborhood of the larynx, which is freely movable.

Laryngoscope shows a lump 1 inch by  $\frac{3}{4}$  inch in left hyoid fossa, pushing the epiglottis across the middle line and hiding the left, and the greater part of the right, vocal cord. Patient was kept on full doses of iodide for three weeks, when it was decided to operate, the diagnosis being epithelioma.

Preliminary tracheotomy was done with insertion of Semon's tampon. Incision above and parallel to great cornu of hyoid bone to locate growth. Finding this below that level, a transverse subhyoid incision was made, separating the epiglottis from the tongue and hyoid bone. This was joined by a vertical one reaching to within half an inch of the tracheotomy wound. The perichondrium and soft parts were stripped from the left ala of the thyroid cartilage, the latter divided in the middle line, the arytenoids dislocated from the cricoid, and the half larynx removed with the epiglottis attached. There was no difficulty about the operation. The mucous membrane was sutured so as to shut off the pharynx as much as possible from the operation wound. A No. 16 rubber catheter was passed into the esophagus with its end coming out through the mesial incision in the neck, and the upper part of the trachea plugged with iodoform gauze. Esophagus tube removed on second day, and patient fed himself with a feeder to which the large catheter was attached. On the eleventh day the tracheotomy tube and tracheal packing were removed, and the patient found he could speak in a whisper.

Patient made complete recovery.

EATON.

**Laryngospasm, Eclampsia and Tetany in Children, and Their Connection with Rachitis and with One Another; Laryngospasm and Enlarged Thymus and the Lymphatic Constitution**—ADOLF BAGINSKY—*International Clinics*, Vol. I, Ninth Series, April, 1899.

Laryngospasm is discussed as the main feature of a symptom complex which has long been recognized and written about under various names, the most common, besides laryngospasm or laryngismus stridulus, being spasmus glottidis, asthma rachiticum, Kopp's asthma and asthma thymicum.

The lecturer asserts that, almost without exception, laryngospasm develops in rickety children, and that the connection between rachitis and laryngospasm is not a mere coincidence, but that the former stands in a causal relation to the latter, in that it provides a groundwork upon which develops an unstable nervous equilibrium, which is upset by any slight unusual irritation, and leads to the characteristic nervous explosion, in the delicate nerves of the larynx, constituting laryngospasm.

Three cases are presented, in each of which the patient was pale and delicate-looking and showed the classical symptoms of rachitis—the square head, the wide-open fontanelles, the enlargements of the ends of the long bones, something of the "rickety rosary" in the beaded enlargements of the ribs where they join their cartilages, and, finally, the prominent abdomen.

In the severer cases of laryngospasm an attack is apt to be followed by general convulsions, which may be brief or considerably prolonged, during which there are twitchings of the fingers and clonic movements of the limbs.

Even between these movements there is persistent spasm, shown by the resistance to any attempt at flexion of the limbs. The diaphragm is involved in the clonic contractions, sometimes giving rise to a peculiar jerky respiration. The abdominal muscles are spasmodically contracted, the legs are in spasm, and all the senses and cutaneous reflexes are in abeyance. This is the ordinary picture of eclampsia or convulsions in children, and the connection between laryngospasm and eclampsia is betrayed by the gradation seen in the attacks and by the one condition following so closely upon the other.

In many of these cases there develops the set of nervous manifestations which constitutes tetany, and in nearly all cases tetanic twitchings of the muscles of the face and limbs may be induced.

From the frequent occurrence together of the three conditions named, and that, too, almost without exception, in rachitic subjects, the lecturer argues that they are closely related to each other, and that rachitis bears an etiological relation to them.

Enlargement of the thymus and the lymphatic constitution doubtless also play an etiological role in laryngospasm—the former largely by exerting pressure on the trachea and larynx, the latter through producing an organism which is poorly nourished, unresistant to toxic and bacterial action, and supplied with an ill-balanced nervous system.

As to the treatment of laryngospasm and accompanying conditions, the administration of phosphorus is strongly advocated.

Recourse must sometimes be had to the bromides or musk. Any coincident affection, liable to cause reflex nervous trouble, must, of course, receive proper attention.

When eclampsia develops, chloral hydrate is, perhaps, the most efficient remedy.

Where other remedies fail, leeches may be applied over the mastoid, and, if a fatal termination be threatened, venesection is advised.

Ross.

## V. EAR.

### Acute Inflammation of the Middle Ear Complicating Scarlet Fever and Measles—CHAS. H. MAY—*Archiv. Pediatrics*, July, 1899.

Unchanged but more general treatment of the ear has reduced this complication during the last ten years. About 20 per cent of all cases of scarlet fever have ear complications. They are more usual in winter. Two classes, the *catarrhal* and *purulent*, named according to the character of the discharge, though clinically it may not be possible to differentiate until after perforation. Streptococci, staphylococci and pneumococci are found in the discharge, and there is reason to



believe the character of discharge depends upon nature of infection by the micro-organisms. Streptococci, likely responsible for severe form. Probably majority of cases of otitis in measles are catarrhal form. As majority of otitic complications occur at end of first week, when fever has subsided, a sudden rise of temperature is an important diagnostic sign indicating inflammation of the ear. At an early stage there will be more or less redness of membrane, which if limited to Schrapnell's membrane indicates a severe type, and purulent. In early stage resolution may occur by pus escaping through Eustachian tube, but such an event will not take place if the accumulation is purulent. Treatment should be *preventive*, which means antiseptic washes, cleanliness, in the nasal passages; *abortive*, treatment in the early stages tending to prevent perforation; *paracentesis*, when the abortive treatment is unsuccessful. Bulging of membrane demands radical paracentesis, or even a good slit. Upon the disputed question of inflation in scarlet fever and measles the author occupies an affirmative position. "*But it must be used properly*," which means *gently*, preferably by catheter, with accompanying suction of the tube and tympanum. This is accomplished, after the catheter has been introduced and the ear inflated, by placing the finger upon the valve of the bag while in a compressed condition. The elasticity of the bag tends to cause it to assume its original shape, and as no air can enter, suction is generated. When the finger is kept on the valve constantly no progress is made since the suction causes the tube walls to collapse, but if a little air is permitted to enter by alternately releasing and applying the finger for a moment at a time the contents of tube and tympanum tend to be drawn towards the catheter. If catheter cannot be employed, suction may still be possible following inflation by Politzer's method. Mild purulent and catarrhal cases may often be aborted by this procedure. The physical signs upon inspection must determine the necessity for paracentesis. The author ends with this italicised axiom: *When in doubt incise.* F. C. E.

**On the Conduct of the Mastoid Operation for the Cure of Chronic Purulent Otorrhea, with Special Reference to the Immediate Healing of the Cavity in the Bone left by the Operation by Means of Epithelial Grafts—CHARLES A. BALLANCE.**

With remarks on the selection of cases for the operation by Sir William Dalby.

Paper read at the meeting of the Royal Medical and Chirurgical Society held on Tuesday, January 23, 1900.

It is pointed out:

1. That the progress in the surgical treatment of suppurations in the temporal bone during the last twenty years is due (*a*) to an increase in anatomical and pathological knowledge and (*b*) to the adoption of true surgical principles.

2. That the selection of cases for the complete mastoid operation is surrounded with difficulty, and that large experience rather than

rigid rule is the best safeguard against, on the one hand, the risk of delay, and, on the other, the performance of an unnecessary operation.

3. That the cure of chronic otorrhea cannot be effected by a simple opening into the antrum.

4. That the complete mastoid operation which involves surgical damage to the tympanic structures is inapplicable to and unjustifiable in acute cases.

It is proposed that typical intractable cases of chronic otorrhea should be treated by two operations:

1st. *The operation for the removal of the disease*, namely, the complete mastoid operation.

2d. *The operation for the healing of the wound*, namely, by the epithelial grafting of the raw bone cavity.

Lastly the operations are described and notes of twenty cases are appended.

Sir William Dalby's remarks deal chiefly with the selection of cases of long standing for the complete operation, with skin-grafting. As undoubtedly necessary are mentioned:

1. Cases in which septicemia has commenced.

2. Cases in which there is dead or carious bone in the tympanic cavity, accompanied by ominous symptoms often repeated.

3. Whenever there is evidence of mastoid disease of long or short standing.

As open to question are:

4. A certain proportion of cases where, although there is evidence of dead or diseased bone, there is no reliable history of ominous symptoms.

5. Cases of intractable otorrhea without bone disease or ominous symptoms.

Cases are also discussed in which a less complete operation (which, however, includes free posterior drainage) is necessary.

STCLAIR THOMSON.

### **Chronic Middle-Ear Suppuration with Thrombosis of the Lateral**

**Sinus in which the Internal Jugular Vein was not Ligatured;**

**Recovery**—ARTHUR H. CHEATLE—*Lancet*, January 13, 1900.

Thrombosis of the lateral sinus occurring during the course of otitis media may have either of two pathological causes. On the one hand, it may be due to the passage of micro-organisms from the middle ear through the wall of the sinus; thus a thrombus is formed, which contains the bacteria which have given rise to it; this clot readily breaks down, and therefore in these cases there is a very great probability of the occurrence of embolic pyemia. On the other hand, the blood may clot in the lateral sinus, owing merely to a "spread of the inflammation" from the surrounding structures; in this case the coagulation is probably the effect of the transudation of toxins, and the clot so formed is firm and has little or no tendency to become disintegrated. It is not possible to distinguish clinically between these two conditions until some infec-

tive manifestation occurs, such as a pyemic embolus; but a rigor is very suggestive, and is quite sufficient to justify ligation of the internal jugular vein. A case somewhat similar to the one recorded below has been published by Röpke.\*

A boy, aged fourteen years, attended on June 26, 1899, complaining of pain round the left ear and of vomiting. Eighteen months previously he had had a discharge from both ears which "was stopped." On two occasions since then he had suffered from earache, but there had not been any discharge. Five days before being seen at the hospital he had pain in his head and commenced to vomit. The pain, which was at first intermittent, had become continuous. The vomiting had caused great distress, and, as no food could be retained, he had rapidly lost flesh. Two days before admission the ear had discharged, with some relief to the pain. Giddiness had been complained of for two days. A marked shivering fit occurred during the night before the visit to the hospital. The boy looked wasted and anxious, and was extremely restless. He was sensible and answered questions readily. On walking he had a tendency to walk towards the right. The temperature was 100.2°F., and the pulse 104. An offensive brown discharge came from both ears, a perforation being present in Shrapnell's membrane on each side. Marked tenderness on pressure was present behind the mastoid process and below the ear, where glandular enlargement could be felt. The heart and lungs were normal. Papillitis was present in both discs equally.

The antrum was found to be full of granulations and cholesteatomata. On laying the antrum into the middle ear the malleus and incus were found, both carious. The attic and middle ear were then thoroughly cleared. On examining the walls of the antrum, a discolored and softened patch of bone was found in the posterior, leading directly to the lateral sinus. The sinus having been exposed for over an inch of its length, it could be seen that it was occupied by a firm clot, which was dark in color except at the point of infection, where it was slightly yellow and evidently breaking down. As giddiness had been a marked symptom, the cerebellum both in front of and behind the sinus was thoroughly explored, but with no result. The dura mater, which had been incised, having been stitched up with catgut, the sinus was laid open for the whole of its exposed length and the clot was turned out. As the clot for some distance above and below the point of infection was dark-colored and firm, it was decided not to tie the internal jugular vein, but to clear the thrombus out as far as possible from the wound. For this purpose a sharp spoon was first carefully passed downwards, no bleeding occurring. A gauze plug having been prepared, the spoon was passed backwards towards the torcular; after some clot had been gently removed, a free gush of blood took place, shooting out a healthy-looking mass of clot fully one and one-half inches in length. The bleeding was

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\* *Archives of Otology*, Vol. xxv, No. 4.



easily controlled by the plug. The whole wound was then packed with iodoformed cyanide gauze. The operation occupied one and a quarter hours. An hour after the operation a rigor occurred, the temperature reaching 102.4°. From that time the progress was steady and uneventful, but slow.

That ligation of the internal jugular vein is not always necessary in thrombosis of the lateral sinus is well recognized, but no guiding rule has been laid down. Young\* has described a case in which recovery took place without ligature of the vein, and no doubt many surgeons have had the same experience. Bronner has related a case in which the clot as seen through the wall of the sinus looked healthy throughout, and it was therefore left unopened, with a happy result. It seems that if healthy-looking clot can be seen well below the breaking-down area ligation of the vein is not necessary; but in order that such a condition may be found it must be well recognized that *one* rigor demands instant operation. A rigor does not necessarily mean that there is septic thrombosis of the sinus, for in a case under the care of Dr. Urban Pritchard in King's College Hospital a severe rigor occurred as a result of an acute empyema of the antrum, and no further bad symptom followed after removal of the outer wall and evacuation of the pus. But it cannot be too strongly insisted upon that there should be no waiting after a rigor has occurred during the coming of an acute or chronic middle-ear suppuration; the antrum should at once be opened and the sinus examined. An interesting point about the case related is that, although the boy was perfectly well, the optic neuritis was present at least three months after the operation. The giddiness which was such a marked symptom was due, in all probability, to disturbance of the intracranial circulation owing to the occlusion of the sinus.

STCLAIR THOMSON.

## VI. DIPHTHERIA, THYROID GLAND, ESOPHAGUS, ETC.

### Two Cases of Tumors of the Esophagus Removed by Sub-Hyoid

Pharyngotomy—W. PERMEWAN—*Liverpool Medico-Chirurgical Journal*, No. 37, 1899.

The operation in each case was performed in the usual manner, after preliminary tracheotomy, except that the epiglottis was deliberately cut off from the thyroid so that its attachments to the tongue were not severed. In the first case, a fibro-myxoma was easily removed, the epiglottis stitched to the thyroid and the wound closed completely. Everything went well for seven days and then the tracheotomy tube was removed. The following day the wound began to break down and gaped widely in a day or two. Meanwhile the patient developed septic bronchitis and died on the tenth day.

\* *Glasgow Medical Journal*, October, 1899.

In his second case, a growth similar in appearance and position to his first, but on section proving to be a carcinoma, was removed, though with greater difficulty and less completely. But then, instead of stitching up the wound, the author plugged it with gauze and left it absolutely open. The patient recovered from the operation without a rise of temperature and the wound was almost closed at the time of reporting.

The author considers that the difference between the failure and success of these two operations (as far as the immediate success of operation is concerned) entirely depended on the after-treatment, and concludes that in this, the example of Butlin, in thyrotomy, should be followed, and the wound left open, no attempt at primary union being made.

P. WATSON WILLIAMS.

**Extensive Mediastinal Emphysema in a Fatal Case of Laryngeal Diphtheria; with Remarks on the Early and Late Variety of Emphysema Observed in the Case after Tracheotomy—**

W. EWART AND H. B. RODERICK—*Lancet*, December 30, 1899.

The following case is a striking illustration of a complication to which diphtheria of the larynx and trachea is liable in spite of tracheotomy and of antitoxin, and the fatality of which is probably attributable to the cardiac and pulmonary embarrassment set up by the increasing distention of the areolar tissue of the anterior and posterior mediastina and of the root of the lungs.

The patient was a child, aged five, who was admitted for threatening suffocation, and tracheotomy had to be performed within twelve hours. Four thousand units of antitoxin were injected immediately after the operation. Next day emphysema began to develop; this increased; membrane was coughed up, and the patient died within three days. There is no mention of the diphtheria bacillus being found.

*Necropsy.*—The post-mortem appearances twenty-four hours after death were as follows: There was great subcutaneous emphysema of the neck, face and eyelids, the aspect being very similar to that met with in acute renal dropsy. Neither fluid nor adhesions were found in the pleural cavities. The lungs showed localized patches of collapse. There was great emphysematous swelling of the loose tissue in the anterior and posterior mediastina and about the roots of both lungs. This extended up around the trachea, but owing to the density of the tissues was not so considerable. The trachea showed a tracheotomy wound with sloughy edges and pus in the tube. The true and false vocal cords and the under surface of the epiglottis were abraded, and small shreds of a membrane-like substance were recognizable about the epiglottis. The tonsils were practically normal, and the soft palate was merely edematous.

*Remarks.*—We are reminded by this case that after the relief of a membranous obstruction of the larynx by tracheotomy a membranous trachitis may still remain, and may be latent for a while, and that it is important to frame our treatment from the first in all cases with a view to this possible contingency. The existence of

a false membrane lining the trachea and bronchi was not suspected until its detachment led to a suffocative attack; and after the operation the air entry was so good that the precaution of introducing creasoted oil into the trachea immediately after the tracheotomy and every two hours subsequently was not adopted until it was too late for it to be of any service. The case also affords an instructive demonstration of the mode of production of the two varieties of subcutaneous and mediastinal emphysema. That which was immediately induced by the tracheotomy is well known to be a frequent complication of that operation. The other form of emphysema, which is less common after tracheotomy,\* is more likely to occur at a later stage, when the distension of some of the pulmonary alveoli under stress of bronchiolar obstruction has gradually reached bursting-point. More distinctive than this relative lateness, which is not an invariable feature, are the suddenness and the rapidity of the development of the swelling after expiratory strain—in this case that of violent and prolonged coughing—which contrasts with the more gradual air-infiltration of the inspiratory form of emphysema.

In the absence of any known means of relieving its results or of checking its progress, a recognition of this serious complication of diphtheria is a guide to prognosis rather than to treatment. The leak of air in this form of emphysema is beyond the reach of any local measures. An obvious indication would be to allay the tendency to cough, but in carrying this out too completely we might deprive the patients of the only means of clearing the tubes of their obstruction by diphtheritic products.

The continuous inhalation of oxygen through the tracheotomy tube, inasmuch as it favors a diminution of the respiratory efforts and a relative apnea, would seem to be the most appropriate form of respiratory treatment.

STCLAIR THOMSON.

**Foreign Bodies in the Air Passages**—C. A. MEISENHEIMER—*Carolina Med. Journ.*, February, 1900.

No time should be wasted with emetics, sternutatories, inversion of the body and such like means, but an operation should be undertaken at once to relieve the patient of the danger of suffocation.

In the first three cases the foreign bodies—pin, broken end of parasol and melon seed respectively—tracheotomies were done, resulting at once, or subsequently by coughing, in the elimination of the foreign body.

The fourth was a grain of corn in the trachea, which was coughed up on the third day. The fifth, a thimble, was removed by a tracheotomy. The sixth was a glass bead, which was located in the trachea by the X-rays, was removed by tracheotomy.

W. SCHEPPEGRELL.

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\* Dr. J. K. Fowler ("The Diseases of the Lungs," by Fowler and Godlee, 1898, pp. 181-182) gives several cases which may include, besides a case in which tracheotomy had not been performed, instances of this non-traumatic variety.



**Report of a Case of Pseudo-Diphtheria**—FRANK L. STILLMAN  
*Columbus Medical Journal*, December, 1899.

The patient was a man of twenty-two years subject to recurring tonsillitis. Had a slight rise of temperature. Follicles in both tonsils enlarged and containing white, ill-smelling debris. A pseudo-membrane covered both tonsils, also the gum and cheek about the left lower wisdom tooth. The membrane was removed with some difficulty and left a bleeding surface. Microscopical examination showed no Klebs-Löffler bacillus. Cultures from the left side showed streptococcus exclusively, while the right side showed staphylococcus. Urine examination was negative. Duration of illness three weeks.

STEIN.

**A Few Notes on Ear, Nose and Throat Work as Taught in Berlin and Vienna**—JULIUS E. KLOTZ—*The Canadian Practitioner and Review*, December, 1899.

After giving details of the operative work done on the cadaver in that city where "any number of temporal bones are at one's disposal," the author says:

"Of the most recent drugs employed here at present—meta-cresol-anitol and phenolo-rabium-sulpho-vicinicum may be mentioned in connection with the treatment of ozena.

"Tri-chlor-acetic acid is used for the reduction of nasal hypertrophies. For removing adenoids, Kirstein's ringmasser is considered the most suitable. Iodoglycerine is almost universally employed in the treatment of atrophic rhinitis, laryngitis and pharyngitis sicca."

GIBB WISHART.

**Early Intubation in Laryngeal Diphtheria**—WILLIAM E. TOWER—*The Cleveland Med. Gazette*, January, 1900.

After an experience of eighteen months the author urges the importance of early intubation in laryngeal diphtheria. Many of the deaths from diphtheria result from laryngeal obstruction when intubation is not practiced, or from broncho-pneumonia following late intubation. The advantages of early intubation are the greater strength and resistance of the patient, the shorter period necessary to wear the tube, the time usually not exceeding twenty-four to thirty-six hours, and the lessened danger of introducing septic material into the trachea with the nourishment because of the short time the tube is in the throat. Antitoxine should be given at the inception of the disease and intubation done at the first symptoms of prolonged inspiration, slight stridor, supraclavicular retraction, or marked restlessness. Nourishment should be administered per rectum.

DETWILER.

## VII. NEW INSTRUMENTS AND THERAPY.

**Strictures of the Esophagus with a Device for Their Dilatation, Illustrated**—TUCKERMAN—*The Cleveland Med. Gazette*, January, 1900.

The author accomplished the dilatation of a stricture of the esophagus, located seven inches down and in three bands, by means of the Wales bougies slipped over an ordinary whale-bone esophageal bougie to serve as a guide. The treatments were given at intervals of about a week, and resulted in dilating the stricture from the size of a bougie measuring No. 27 French to one measuring No. 45 French.

DETWILER.

**Quick Method to Cure a Cold in the Head**—A. S. BARNES, JR.—*Interstate Med. Journ.*, October, 1899.

The method consists in a hot bath and warm bed;  $\frac{1}{8}$  of a grain pilocarpine muriat is then administered and after three-quarters of an hour of sweating  $\frac{1}{100}$  grain of atropine is taken. This is followed by a prescription containing phenacetine, salol and caffein citrate at intervals of two hours.

F. C. EWING.

**Aqueous Suprarenal Extract**—JOSEPH MULLEN—*Journ. Am. Med. Assn.*, May 20, 1899.

When applied locally to any mucous surface aqueous suprarenal extract produces a more or less profound ischemia, depending on the strength of the solution and the manner and time of its application. The local use of the extract should always be preceded by the application of a five per cent solution of cocaine. The therapeutic principle on which the physiological action of the extract depends is its contractile power on the small arterioles and the basement membrane, thereby retaining in the tissues the cocaine, increasing the ischemia, and when the tissues are incised preventing the hemorrhage which would wash away the cocaine and terminate its anesthetic effects. After the use of the extract the post-operative swelling is much less, and the danger of secondary hemorrhage is greatly reduced.

To make a permanent solution the author dissolves the dry extract in a one minim to the dram solution of carbolic acid in distilled water. Vansant recommends five grains of the extract, eleven grains of boric acid and half an ounce each of camphor water and distilled water.

ANDREWS.

## BOOK REVIEWS.

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The Year Book of the Nose, Throat and Ear: The Nose and Throat by G. P. Head, M.D., Prof. of Laryngology and Rhinology in the Chicago Post-Graduate Medical School; the Ear by Albert H. Andrews, M.D., Prof. of Otology in the Chicago Post-Graduate Medical School, oculist and aurist to the German-American Hospital, etc. 8vo., cloth. Pp. 274. Price, \$1.50 net. Chicago: Chicago Medical Book Company. 1900.

The editors of this book have rendered a service which merits an appreciative reception. The work represents the condensed cullings from the mass of literature on the nose, throat and ear for the year 1899. Without reading the 170 journals referred to here, one obtains the pith of their contents in this specialty, and saves not only a vast amount of time, but the cost of the journals besides. The chief fault with this work is its price—which is too low—less than the cost of one of the good journals quoted.

Not only do the compilers give useful abstracts of the various articles, they have also added briefly the results of their own observations, and they are clinicians who are conversant with the requirements of busy physicians. The general conclusions arrived at by essayists and disputants in the society discussions are summed up in concise language. Excellent discernment and discriminating judgment are shown in apportioning space and matter to the various subjects.

Of the 256 pages of text, 143 pages are devoted to the nose and throat, and 113 to the ear. A striking feature in both departments is the large number of new names that are coming to the front in these specialties.

We suggest that it would be more interesting and satisfactory to the readers, and more generous to the writers quoted, if their full names or initials were given whenever it is possible, especially when they are not widely known. However, it should not be forgotten that many journals do not extend this courtesy in their abstracts, and so the abstractors of these journals are placed at a disadvantage. This is very embarrassing when correspondence with the writers is desired. It is surprising that any journal will quote an author whose name is not considered worth mentioning in full. The publishers have acquitted themselves handsomely, and the volume is invaluable as a bird's-eye view of the year's literature on the nose, throat and ear.

S. S. BISHOP.



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## ORIGINAL COMMUNICATIONS.

(Original communications are received with the understanding)  
that they are contributed exclusively to THE LARYNGOSCOPE.)

### THE ETIOLOGY OF CHRONIC ATROPHIC RHINITIS.\*

BY FRANCKE H. BOSWORTH, M.D., NEW YORK.

For twenty years I have maintained and still maintain that atrophic rhinitis is a development from the purulent rhinitis of childhood. There is not a single clinical case on record that justified the assertion that atrophic rhinitis ever follows hypertrophy of the mucous membrane. In early life it is the epithelial structures which are especially involved in a tendency to catarrhal inflammation of the mucous membrane. The result is an increase of the secretion, together with an exaggerated proliferation of the epithelial cells. This results in a discharge of mucus, containing young and unripe epithelial cells, constituting a muco-purulent discharge. This process gradually extending into the follicular structures and into the racemose glands, these glands eventually becoming denuded of these epithelial cells, collapse and disappear. The result is that the secreting surface of the mucous membrane is to a certain extent destroyed. The secretion in time becomes inspissated, and dries readily into crusts. These dried crusts interfere markedly with the flow of blood in the mucous membrane. The resulting contraction of the mucous membrane causes an interference with the respiratory function of the nose. Not only is the whole thick-

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\* Remarks made at the meeting of the Laryngological Section of the New York Academy of Medicine, March 28, 1900.

ness of the mucous membrane involved, but the turbinated bodies and, sooner or later, the periosteum, and then follows atrophy of the turbinated bones. The muco-purulent secretion of the nose, when dried, is not easily expelled, and its retention and consequent decomposition readily explains the stench observed in such cases. The disease, therefore, is essentially one of childhood, and after six or seven years it advances sufficiently far to cause the formation of crusts and produces a stench. These cases are comparatively rare—about one case for every forty of the hypertrophic variety. He had never seen but one case of fully developed atrophic rhinitis cured, although they sometimes improved spontaneously at about the age of forty.

The sequence of pathological changes in the tissue would seem to be easily comprehended, but the question as to why the initial change should set in is not easily answered. In a certain proportion of cases of the disease which I have seen in its early stages there was notable evidence of mal-nutrition, but it could not be traced in any instance to syphilis, tuberculosis, scrofula, lymphatism or any of the constitutional dyscrasia.

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## SOME RECENT CONTRIBUTIONS TO THE STUDY OF THE ETIOLOGY AND PATHOLOGY OF ATROPHIC RHINITIS.\*

JONATHAN WRIGHT, M.D., BROOKLYN.

Two papers dealing with statistics obtained by measurements of the skulls of patients in and near Basel, in Switzerland, have lately appeared in the same number of the *Archiv für Laryngologie*, Bd. 8, Heft 3. While they both present appalling examples of sesquipedalic terminology they also contain valuable information in regard to certain puzzling problems in rhinology. I refer to "Hypsistaphylie und Leptoprosopie," by A. Grossheintz, and to "Chamæ-prosopie, ein Etiologisches Moment für Manifeste Ozena," by B. Meisser. It is always discouraging to the reader to have to hunt up a Greek lexicon before beginning to read a thesis, so it may be well to explain that these are terms in anthropometry—hypsistaphylia meaning literally "high uvula," leptoprosopia meaning literally "narrow face" (or, primarily, a delicate face), and chamæ-prosopia meaning "low face," *i. e.*, broad face.

It has been stated by many writers, and it seems to be the general impression among rhinologists, that the high palatal arch and the long, narrow face are directly connected either as cause or effect with the occurrence in children of naso-pharyngeal lymphoid hypertrophy. Some years ago E. Fränkel (*Inaug. Dissert. Basel*, 1896), by careful measurements, came to the conclusion that this was not the case, this configuration of the jaw occurring no more frequently in those who have than in those who have not post-nasal hypertrophy. The paper of Grossheintz fully supports this view. Indeed Lange has stated, and it has been my experience, that cases of a very high, narrow palatal arch are not infrequently seen without a trace of adenoids. According to Grossheintz, the existence of this condition depends upon the type of the skull, whether, in other words, it is dolicho-cephalic or brachio-cephalic. The deductions which he makes from his exhaustive and somewhat exhausting observations are as follows:

"1. With high, narrow alveolar arch (hypsistaphylia) is usually associated a general narrowing of the upper face (leptoprosopia).

"2. Narrow nasal passages (leptorrhinia) and narrow orbits belong, as a rule, to the skull formation having high arched palates.

"3. Hypsistaphylia depends, as a rule, upon the congenital racial characteristics of the skull, and not upon the later extra-uterine influences of nasal stenosis."

\*Read before the Laryngological Section of the N. Y. Academy of Medicine, March, 1900.



While it seems to be very evident that "adenoids," as the cause of narrow jaws, has been a subject in which very erroneous views have prevailed, I am not convinced that the narrow jaw does not have some etiological influence upon the occurrence of lymphoid hypertrophy in the pharyngeal vault. We may presume, at least, that adenoids, occurring in such subjects, are very much more apt to produce symptoms, especially of obstruction, and thus more frequently come under the observation of the physician than do those of the brachio-cephalic type, but even this assumption should not be too absolutely entertained.

In the study of the etiology of atrophic rhinitis, nothing can be more important than to keep constantly in mind the many theories which have been urged with great enthusiasm by their several authors. We have a long list to choose from. They are certainly not all correct, yet some of them may be found to be approximately so if a true explanation is ever arrived at. Perhaps it may be useful to simply enumerate the better known of them, most of them being mentioned by Meisser in the paper above referred to in connection with his name.

We remember that it is claimed by different observers that the disease begins:

As an hypertrophy.

As an atrophy.

As a purulent rhinitis. (Bosworth.)

As a bone disease. (Cholewa and Cordes.)

Its causes have been given as:

1. Mechanical.

(a). Nasal passages abnormally wide to begin with. (Fränkel, Zaufal, Meisser and others.)

(b). Congenital narrowness of the nasal fossæ. (Sauvage, Tillot).

(c). Shortness of the nasal fossa. (Hopmann.)

2. Bacterial.

(a). Löwenberg-Abel bacillus.

(b). Pes-Gradenigo bacillus.

(c). Pseudo-diphtheria bacillus. (Belfanti, Vedova.)

3. Neuropathic. (Bayer, Woakes.)

4. Accessory sinus disease. (Michel, Grünwald.)

5. Constitutional discrasia. (Hutchinson, Meisser and others.)

6. Epithelial metaplasia. (Meisser, Gerber.)

It would seem that human ingenuity could no further go. It is needless to say that vital objections may be urged against some of these theories, while it is also plain that it is possible for several of the etiological factors mentioned to coexist and that it is necessary for some of them to be considered as interdependent.

Meisser's work is taken up not with the invention of any new hypothesis, but in the support which he gives to those of Zaufal, Fränkel, Cholewa and others, who trace an etiological connection between the form of the skull and nasal passages and atrophic rhinitis. The earlier writers, in their anthropometric investigations, had adopted rather unsatisfactory methods of measurement and comparison, as, for instance, in obtaining the facial index they measured from the hair line to the point of the chin. Meisser bases his evidence on more modern and accurate methods. The index of the upper face he obtains by measuring from the fronto-nasal suture to the alveolar border of the superior maxilla in order to get the length, and by measuring the distances between the malar eminence in order to get the breadth; then the length multiplied by 100 and divided by the breadth gives the index required. By a large number of such measurements he established the fact that in his part of the world (German Switzerland) fifty-four per cent of all people have an index thus obtained of fifty or less, and these he calls cases of *chamæ-prosopia* while 64 per cent the index is over 50, and these he calls cases of *lepto-prosopia*. After obtaining these data he proceeded to measure forty cases of atrophic rhinitis in the same way.

He found that thirty-nine of them, or ninety-seven and a half per cent, had an index of fifty or less (*chamæ-prosopia*), while only one, or two and a half per cent, ran over that figure in their facial index. In general, the smaller the index the larger the number of *ozena* cases found with it. He pursued his investigations in another direction. He found that when *ozena* was present only on one side, not only was there a metamorphosis of columnar epithelium into squamous on that side, but on the apparently sound side also in the region of the anterior end of the middle turbinated bone. This observation was made in two cases only, but it brought him to the conclusion, which certainly seems a most remarkable assumption from such meagre premises, "that the nasal epithelium in *ozena* has, as a rule, undergone metaplasia even in early youth or has existed at birth, but that the *ozena* only manifests itself when, in addition to this, *chamæ-prosopia* is also present."

From these two sets of observations, and from corroborating evidence in the work of other observers he draws the following conclusions:

"A. Rhinitis atrophica fetida, as a rule, is found only in those of the broad-faced type. (Index of upper face under fifty.)

"B. In unilateral ozena the epithelium of the apparently healthy narrow side, at least in the region of the middle turbinate, is also metamorphosed.

"C. For the advent of the clinical picture of rhinitis atrophica there must chiefly be at work two factors, viz.:

"1. Epithelial metamorphosis of the nasal mucous membrane.

"2. Chamæ-prosopia, *i. e.*, wide nasal fossæ.

"These factors bear no relation to one another, but, on the contrary, they are, apparently also the metaplasia, congenital; but where one of the two factors is lacking the characteristic clinical picture of ozena is also absent."

It cannot be denied that if we are to accept the facts brought forward by Meisser as indisputable we must also accept the deductions he makes.

As for the metaplasia of the epithelium, Meisser's investigations have apparently not been extensive enough to establish at all satisfactorily his statement of the congenital occurrence of flat-celled epithelium in the nose of certain individuals. From my own experience in the microscopical examination of the nasal mucous membrane I should be inclined to doubt very seriously if this is a frequent phenomenon. It is a fact, however, that the flat cells of the skin do extend for some distance over the mucous membrane adjacent to the vestibule. This I have frequently had occasion to observe in the region mentioned, but not very exactly defined by Meisser, *i. e.*, at the anterior end of the middle turbinated bone; but further back in the nose I have seen no indication of such a condition except in connection with long existing pathological processes. It must be borne in mind that the anterior end of the middle turbinated bone is not that part of the mucosa where the most marked atrophy is regularly observed. We know that the mucosa of the inferior turbinated region, as well as the bone beneath, is regularly the first locality where marked atrophy is observed.

He presents, however, very much better evidence of the coincidence, at least of wide nostrils and atrophic rhinitis. This demonstration is so striking as to make it impossible for us to disregard its etiological significance. Nevertheless this cannot be unhesitatingly



accepted from statistics gathered in a region where the brachio-cephalic index of skulls preponderates so markedly over the dolicho-cephalic as it does in Switzerland. (*Vid:* Ripley, "The Racial Geography of Europe.") Comparison with similar statistics from the Iberian peninsula, where the dolicho-cephalic index preponderates, might alter the evidence very materially. Moreover, the statements of Meisser, which corroborate in a very conclusive manner the statements of many former observers, do not necessarily prevent our acceptance of the validity of other etiological factors.

In a more recent number of *Fränkel's Archiv*, Bd. x, Heft 1, Gerber continues the discussion of this part of the question of atrophic rhinitis under the title of "Chamæ-prosopia and Hereditary Syphilis in Their Relation to Platyrrhinia and Ozena." It is well to note that by "ozena" the author means chronic atrophic rhinitis with ozena and not syphilitic ozena. He again brings forward the observations of Hopmann in regard to the relation of the septal measurements to those of the naso-pharynx, and the bearing of this comparison on the etiology of atrophic rhinitis. This paper of Hopmann's appeared in the first volume of the *Archiv*. In forty cases of atrophic rhinitis he measured the length of the septum and of the naso-pharynx. He reduced these measurements to the scale of 100 for comparison. The average length in the ozena cases was for the septum 70.9 and for the pharynx 29.1 on the scale. In sixty-one normal noses, or the noses of those not affected with ozena, the proportion was 77.45 and 22.55 respectively. Gerber repeated these observations in 100 cases of ozena and in an equal number of normal cases. Atrophic rhinitis cases showed 75.53 and 24.47, while non-atrophic rhinitis cases showed 78.63 and 21.37. It will be perceived that in Gerber's cases the difference is not so striking, and yet perhaps sufficient to be significant. Gerber then refers to the paper of Kaiser (*Wiener Klin. Rundschau*, 1897-99), and reviews at more length the above-mentioned paper of Meisser. He accepts the conclusions therein stated and unites them with his own observations, but is of the opinion that the short septum, occurring, as it does, in the type of platyrrhinia, stands in more direct etiological connection with ozena than does chamæ-prosopia, or the wide-jaw type, "and therefore," says he, "the links of the chain, when properly arranged in their order, should be called chamæ-prosopia, platyrrhinia, ozena." It would seem that he might with equal justice have placed a brachio-cephalic link before that of chamæ-prosopia. He claims that the platyrrhinia, or flat-nose type, is more common in women than in men. It is, of course, a matter of common observation that women

have less prominent noses, on the average, than do men; but that, of course, only applies, as regards the septum, to so much of it as projects beyond the face line. Whether that holds for the rest of the septum, or whether the brachio-cephalic and chamæ-prosopic type is more common in women, I am unable to determine from these papers. This is somewhat important, for certain it is that we cannot ignore sex in a consideration of the etiological factors of atrophic rhinitis. Gerber puts the proportion of its preponderance in women at about seventy-one per cent, but this seems to me rather below than above its average preponderance. Gerber is inclined to consider that syphilis and rachitis also, as well as Meisser's epithelial metaplasia, are frequently important factors. Referring to an opinion expressed by Fournier, that hereditary syphilis frequently produces a small, but not, on that account, a necessarily deformed nose, Jonathan Hutchinson, it will be remembered, went so far as to declare, many years ago, that inherited syphilis was an etiological factor in every case of atrophic rhinitis, but Gerber makes the necessary declaration that he does not, by any means, go so far as this, but that, although many cases have a syphilitic basis, by no means all of them do. He concludes thus:

"1. A true rhinitis atrophica fetida we will always find where there can be shown to exist a retarded development of the nasal frame work in combination with epithelial metaplasia and certain retrogressive processes (reduction-processen) of the mucous membrane.

"2. This retarded development of the nasal framework will, in the majority of the cases, be found in their natural connection with corresponding facial skull forms (chamæ-prosopia, platyrrhinia). In other cases it may be brought about through pathological processes, especially by hereditary syphilis.

"3. In exceptional cases the connection of epithelial metaplasia with wideness of the nasal chambers, due to other causes, may give rise to the condition of fetid atrophic rhinitis."

It will be noted in this review of recent work how completely we are leaving behind us the bacterial factors. They are sinking, as a great statesman has said, into "innocuous desuetude."

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## THE IMPORTANCE OF DISTINGUISHING FUNCTIONAL COLLAPSE OF THE NASAL TISSUES FROM ATROPHIC RHINITIS.\*

BY CLARENCE C. RICE, M.D., NEW YORK.

The particular portion of the very large subject under discussion this evening, which has been assigned to me, has received too little attention. The importance of recognizing the fact that there are severe conditions of dryness of the mucous membrane of the nose and throat, associated sometimes with dry secretions, which are not properly termed cases of atrophic rhinitis or ozena, does not, I believe, need to be affirmed. The practical importance of this differentiation is two-fold, both from the standpoint of prognosis, which should with proper treatment be much more encouraging than in atrophic rhinitis; and, also, from the standpoint of therapeutics. The time was not long ago, when all conditions of dryness of the upper mucous membrane, associated as they usually are with some degree of *apparent* atrophy of the erectile tissues, were classified under the broad heading of "Atrophic Rhinitis. Perhaps no fault could have been found if we had been content to call many of them types of "dry" rhinitis, for we have learned that it is possible to find well-marked dryness of the nasal mucous surface, temporary or extending over a long period, where atrophy has not taken place. To the severe cases, made noticeable by the large amount of muco-purulent secretion, great atrophy of the nasal turbinates, foul odor of the breath, and the broad sunken nose, to these aggravated cases has the term "ozena" been applied. Such serious cases, with all their significant appearances and symptoms, are easy of diagnosis, although the etiological factors which produce them have been difficult to understand. It does not seem of vital importance whether they be termed serious and advanced cases of atrophic rhinitis, or ozena, or whether these two terms cannot frequently be used synonymously. It has always seemed to me that the most advanced cases, having the most aggravated symptoms, differ from those of moderate severity, not in type, but only in degree, and that perhaps an exhaustive study into the hereditary acquirement of the patient, and his whole history from birth, not only as he has been influenced by disease, but by all the conditions of life which have been peculiar to him, would go far towards explaining why in this

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particular patient an atrophic rhinitis had manifested itself in that most aggravated form to which the name "ozena" is applied. It seems to me that in studying the etiology of a marked case of atrophic rhinitis we must conclude that *hereditary* acquisitions, and influences in the *earliest years of life* are the most important. Constitutional conditions as subtle as those manifesting themselves in scrofula and congenital syphilis, may be the determining cause of an atrophic condition of the nasal tissues. But this is not my part of the subject, and we have mentioned the atrophic and ozenic class only for the purpose of contrasting them with the large number of cases of simple dryness of the nasal mucous membrane with little or no atrophy, which come to our notice. Can they all be placed under one heading, or do they belong to different types? We have all constantly seen these latter cases, most frequently in dispensary practice, in whom the simple dryness of the nose and throat, accompanied by small collections of secretion, and scarcely any atrophy of the bony structures, where this all seemed such a natural accompaniment to the general condition of the patient that it was difficult to believe that this dryness was due primarily to any local nasal inflammatory process, but it was, rather, simply only one of the many results of a general malnutrition, due to inadequate food, bad air, and the result of a life spent amidst most unsanitary conditions.

The term "Vascular Collapse" used by McDonald, page 68, to describe the nasal condition of the anemic type of cases is perhaps too narrow in its significance. It requires a term of broader meaning to describe the thorough malnutrition of the nasal erectile tissues and also call attention to the fact that this local condition is but one of the symptoms of a general malnutrition.

In considering all the possible causes which would tend to produce this condition which we are calling "functional collapse" of the erectile tissues, we can reasonably say that exactly the *opposite* influences from those which produce vascular tumefaction must be present. If vascular tumefaction occurs in well-nourished people, with enough or more than sufficient blood supply for all the organs, producing a tendency to nasal obstruction and consequently a decrease of intranasal air pressure, then collapse may be naturally looked for in anemic, poorly-nourished persons. The primary anemia in the nasal circulation produces a degree of shrinkage, the nostrils are abnormally wide, the air pressure is increased and a temporary collapse is thus rendered more or less permanent.

We have heard it suggested that vascular collapse may be of rheumatic or gouty origin, but we have not been able to trace such influence.

Before mentioning the differential points of diagnosis between the dry rhinitis of functional collapse and atrophic rhinitis, we want to briefly refer to another variety of dry rhinitis. McDonald, in his very satisfactory treatise, page 135, describes the dry rhinitis which exists in fat, phlegmatic people, especially in men who use alcohol to excess. It is true a marked dryness of the nose and throat does sometimes exist in this class of people and the cause seems to be well understood. The most important influence, not considering for the moment the congestion produced by constant alcoholic stimulation, is mouth-breathing, which seems to be a necessity in stout people whose middle pharynges have become so diminished in size that there is but small space for air to pass up and down behind the uvula. This, with the constant hyperemia, due to alcohol and tobacco, oftentimes produces hypertrophy, and perhaps as often so thoroughly interferes with the physiological function of the erectile tissues of the nose that it causes a general dryness, which perhaps may be called a "dry," but not an atrophic, rhinitis. This dryness is quickly diminished by discontinuing alcohol, and, if possible, by reducing the weight of the patient.

To return to our subject of the comparison of functional collapse with atrophic rhinitis; we cannot fail to have observed the great difference in the symptoms and appearances on the one hand in the dry nasal passages of an anemic girl who works at a sewing machine in a factory, and the nasal passages of a tailor who spends his life in the shop, and, on the other hand, the catarrhal condition of a young adult who is unmistakably suffering from advanced atrophic rhinitis. There are many points of difference between the simple dryness of anemia and malnutrition and that unique disease which is properly termed atrophic rhinitis.

We presume that it would be difficult to differentiate certain of these cases of functional inactivity of the nasal tissues from the mildest forms of atrophic rhinitis; for, in some instances, it is quite possible that the atrophic process has hardly advanced farther than the stage of complete contraction of the soft tissues. But in most cases well-marked points of contrast may be observed. The following are some of the differential features: Functional collapse is not often seen before young adult life, when the effects of continued malnutrition commence to be noticeable, while atrophic rhinitis may be observed frequently in children at the age of ten. Collapse without atrophy we observe in the poorer classes, or at least in people living amidst bad hygienic conditions; true atrophy in people of any class. The appearance of anemia and general debility observed in collapse of tissue is not a necessary accompaniment of atrophic rhinitis. Sim-

ple dry rhinitis—if we may so call it—would as frequently occur in men as in women if they were in as bad general condition. The sunken nose and the widely-spread nostrils characteristic of advanced cases of atrophic rhinitis are not seen in simple dry tissue collapse. Studying the passages of the nostrils we find in the simple dry nose of anemia a mucous membrane of exactly the color we should expect to find from the general appearance of the patient, all shades of palor, but smooth, pressed down tightly upon the turbinated structures which, however, still retain their natural contour, while in the atrophic patient, if he is well nourished, the mucous membrane will show any color from that of an acute coryza to a dirty gray. The surface is granular and atrophy has destroyed, to some degree, the form of the inferior turbinated structures. There is also apt to be an abundant secretion of muco-pus and a collection of crusts in the nose in atrophic rhinitis, while there may be almost none and usually is very little secretion in a patient affected by functional collapse. I judge that Macdonald considers that the great difference in the amount of nasal secretion is the most significant differential point between vascular collapse and atrophic rhinitis.

We are apt to find in functional collapse collections of mucus in a moderate degree in the post-nasal space. I cannot say in which of the two diseases there is the greater dryness of the upper and middle pharynx. In atrophic rhinitis the degree of dryness of the pharynx differs very markedly from time to time, becoming somewhat moist during a sub-acute coryza, and lapsing back into great dryness when there is no acute outburst; but in functional collapse the pharynx, although it will not be as dry as in atrophic rhinitis, is never moist unless the general condition which produces this local trouble is improved. There is never the intensely disagreeable odor of ozena in simple dry rhinitis, although the breath may be unpleasant. In atrophic rhinitis there is a constant tendency to acute or subacute inflammatory outbursts, and the patient has much of the time the symptoms of an acute coryza, while in the dryness of the anemic person there seems to be little or no activity in whatever pathological change may be present. Acute coryzas seem to be rendered impossible by the impaired nerve and blood supply. Hyperplasia of the middle turbinated bone is considerably more marked in atrophic rhinitis than in vascular collapse. Why there is this tendency towards enlargement of the middle turbinated, with atrophy and collapse of all the remaining nasal tissues, is a point which has never been satisfactorily explained.

Observers very generally believe that vascular collapse very rarely eventuates into atrophic rhinitis.



These are perhaps not all of the differential points, but they will cover a portion of the subject.

I have said that the importance of recognizing the fact that dryness of the upper respiratory tract may be due not to atrophy, but to functional inactivity, and this of a temporary character and hence curable, was most important from a therapeutic standpoint. The treatment of these cases is clearly indicated so soon as we recognize that this is not so much a local pathological process as a constitutional disorder. If these patients could be sent into the country where they could lead out-of-door lives, their nasal mucous membranes would recover their integrity without local medication. Living in town, as they are obliged to, we must prescribe out-of-door exercise, better ventilated working and sleeping rooms, cleanliness in habit and dress, and proper food. Local nasal treatment, beyond washing and oiling, is seldom necessary, and anything like heroic treatment would be injurious.

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## THE HYGIENIC AND GENERAL TREATMENT OF ATROPHIC RHINITIS.\*

BY THOMAS R. FRENCH, M.D., BROOKLYN.

If by the word hygienic, as it applies to this subject, is meant the science which is concerned with the injurious effects of certain occupations, then I should have but few words to say, for little can be done for patients with atrophic catarrh caused by the fumes of chemicals in certain trades if the occupation is continued. If the word is to be defined as that which is good for the health, the whole subject of treatment would be mine for elaboration. As, however, the consideration of the electric, mechanical and drug treatment has been assigned to others, it might be presumed that the definition intended to apply to hygienic is that which remains to be said after all is spoken, on the principle of the miracle in the parable of the loaves and the fishes. With that in mind as the possible meaning of the word in this connection, I will endeavor to enlarge the crumb left over from this feast into a double proposition, namely: How to cleanse and how not to cleanse the nasal passages and naso-pharynx in atrophic rhinitis.

While there is a considerable divergence of opinion regarding the etiology and pathology of atrophic rhinitis there is a general uniformity of method, differing only in detail, which is now employed the world over for the control of this disease, or by which it can be made bearable. The two main indications in the treatment of all cases of atrophic rhinitis are local cleansing and stimulation and, when fœtor exists, a third indication is present, that of destroying the disagreeable odor. How best to cleanse the nasal cavities, how best to stimulate the sluggish glands, and what agents are best adapted to destroy the fœtor, represents all that is now sought for in the local treatment of the affection under consideration. The best results are unquestionably obtained in private practice, for the higher the patient is in the social scale the better he can, as a rule, be controlled, for the higher the degree of intelligence of the patient the greater his capacity for comprehending the need of treatment and, therefore, of responding to advice. In childhood comparatively little can be done, except with exceedingly tractable children, for enforced local treatment in childhood not only endangers the morale of the child, but is not likely to be thorough. In old age we can hope for nothing better than to contribute comfort, for there is no hope of reviving the activity of the glands. It is in youth and middle age that most

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can be accomplished. We all, no doubt, make use of the douche and post-nasal syringe in cleansing the nasal cavities and post-nasal space, and in the severe form of this disease nothing short of such means is capable of dislodging the hardened and tenacious secretions in the nose. The fairly normal naso-pharynx is far from being clean and it is difficult to conceive of anything more unclean than this locality in the fœtid form of atrophic rhinitis, but the ordinary syringe as now made may fall only a little short of the nose in this disease, in the matter of uncleanness. From two unclean things it is as impossible to make one clean thing as it is to make a right from two wrongs. The leather plunger of the instrument is soaked in oil when the syringe is made and we have no knowledge that care is ever taken in preparing the oil, and even if care were taken the oil would soon become rancid and form an excellent breeding ground for micro-organisms.

A few weeks ago I took from a drawer in the throat department of a dispensary in this city, one from a number of hard rubber post-nasal syringes in use in that clinic. It had probably been used several hundred times. To the eye, when taken from the drawer, it looked perfectly clean. The physicians who used it invariably cleansed it by drawing an antiseptic solution into it before and after its use upon a patient. The outside of the nozzle was always washed in water, which runs from the pipe in that room at a temperature of from 170° to 190°F. It, therefore, received what is supposed to be sufficient care and in a superficial way it was clean. I sent it to Dr. J. M. Van Cott, Professor of Pathology in the Long Island College Hospital, and asked him to see if it were possible to make cultures from scrapings from the inside of the barrel and curved tube and also from the leather plunger.

Dr. Van Cott's report of the result of his bacteriological examination of the interior of the syringe is as follows:

"After carefully sterilizing the outside of the nozzle I drew into the chamber of the syringe about two drachms of sterile bouillon and after a few minutes returned it to the test tube. In forty-eight hours the bouillon had broken down and emitted a mildly foul odor. It was then injected into the peritoneal cavity of a guinea pig under the usual regulations in laboratory practice, with the result that in eighteen hours the pig died. During the period between the inoculation and the death of the pig he was under constant observation and presented the typical respiratory and nervous phenomena of the septic condition. The autopsy revealed marked congestion at the point of inoculation, mild general peritoneal hyperæmia with localized disseminated peritonitis and considerable clear serum in the peritoneal cavity.



"Cultures from the serum and the right heart blood revealed a mixed growth of organisms which, morphologically, were identical. There were present a short bacillus and a micrococcus. The latter I am inclined to regard as the cause of the pig's demise.

"These findings seem to me to prove that this particular syringe contained pathogenic germs capable of killing guinea pigs and others of a saprophytic nature."

For many years I have had a suspicion that rubber and metal syringes with leather plungers were not clean and, as ordinarily constructed, could not be made clean. The hard rubber syringe cannot be boiled as boiling water will warp the barrel and cause the leather plunger to swell, and antiseptic solutions, if strong enough to destroy micro-organisms, will soon destroy the leather plunger. The revelation made by the bacteriologist in the examination just described has proven that the ordinary syringe, as now made, is a menace to the health of the patient and should never be used. May we not hope that the day is not far distant when the same condition will be required of all syringes which is now required of the hypodermic syringe, that it can be readily and perfectly cleansed? As solid metal plungers make the instrument very heavy, I have had a post-nasal syringe made of thin metal and an asbestos plunger. This instrument can be boiled and is, therefore, a perfectly safe one to use if prepared by boiling.

In the milder cases of atrophic catarrh I much prefer that the patient should make use of a coarse spray in cleansing the nose. In such cases it answers the purpose as well as the douche, requires less fluid to affect the purpose and is less likely to occasion mischief in the middle ear.

I may, perhaps, be permitted a word here in regard to the preparation of the atomizer for use in this disease as well as all other diseases of the nose and throat. From the workshop to those who make use of them, atomizers are subject to a considerable degree of handling. Such instruments are not infrequently purchased, found wanting and returned to the retailer for exchange. Those instruments may, therefore, be infected. Before being put into operation by the patient an atomizer should be prepared as we prepare an instrument for operation—that is by boiling—and thus place it beyond doubt. If the bottle and stem are boiled five minutes and the hand bulb and rubber tube one minute, the possibility of conveying infection is removed. Atomizers with metal stems are alone capable of being subjected to this method of cleansing.

It is not necessary, nor is it desirable, in cleansing the nose, to use strong antiseptic solutions. The olfactory filaments are affected

sooner or later in all cases of atrophic catarrh, unless the disease is arrested, but the loss of function is only hastened by the employment of antiseptic solutions in cleansing the nasal cavities. Alkaline solutions are better borne, more serviceable and less harmful.

Next to cleansing, I presume that the treatment most commonly employed, both by the patient at his home and by the physician in his office, in this disease, is in the use of some medicated oily preparation injected into the nose and fauces by means of an atomizer. Such oily solutions unquestionably give vast comfort to the patient, but, unfortunately, prolonged and uninterrupted use of them is apt to hasten the course of the disease. First, because they aid in destroying the activity of the secreting glands by preventing proper evaporation; second, because they tend to choke and block the mouths of the glands themselves, and third, because they prevent, to some degree, the serum of the blood from reaching the current of air. Keeping the mucous membrane covered with an oil simply lubricates it; affecting only the comfort of the patient for the time being, but it is in no sense curative. Oils should be used, therefore, sparingly and, as a rule, intermittently and should be applied only after thorough cleansing of the nose with a saline wash, and that saline wash should be used before and after a spray of peroxide of hydrogen. This may be regarded as a cumbersome method of treatment for the patient, but it is, I believe, the ideal method in most cases. The use of oils may be omitted for several days at a time, in some cases, with beneficial results. It is difficult to sterilize an oil except by boiling, for microorganisms thrive in the air bubbles and escape destruction by the antiseptic agent incorporated in the oil. In answer to a question regarding the effect of boiling upon various drugs in oil the Benzoin Company made a test and find that iodine, iodoform and aristol are decomposed by boiling. That carbolic acid, creosote, eucalyptol, menthol, camphor, thymol, salol and the oils of cubebs, pine needles and wintergreen are evaporated by repeated boiling. It is probable that very little evaporation occurs if the oil is boiled but once.

And now a word regarding the constitutional treatment of atrophic catarrh. This will, I fear, strain the time limit by a minute or two, but I promise to dispose of this part of the subject assigned to me in a very few words. Under this head the antitoxin treatment may properly be mentioned, for while it is used for its local effect, it acts by its effect upon the blood. This treatment was suggested by Belfanti and Della Vedoia in 1896, because of the belief that the bacillus found in secretions from atrophic rhinitis were an attenuated form of the diphtheritic bacillus. This method of treatment has had many strong advocates, but it has been abandoned by some of the

foremost among them and we have no encouraging statements upon which to base a belief in its efficacy. In a letter received from Mygind, of Copenhagen, a few days ago, he states, regarding the antitoxin treatment in atrophic rhinitis, that he considers it the most effective method we possess, but it has so many drawbacks that, for the present at least, he has been obliged to abandon it.

It is safe to say that one-fifth of the subjects of this disease are not in good health and, therefore, require constitutional treatment. When this affection is dependent upon a constitutional dyscrasia, such as tuberculosis or anæmia, or upon an inherited taint, local treatment, while very necessary, should occupy a secondary position, for its action will be but transient unless the constitutional condition is combated with every reasonable means for increasing body nourishment. The immediate effect of a change of climate upon the nasal symptoms is more marked at the seashore than inland, but it does not follow that a residence at the seashore will, in the long run, be more beneficial, especially if the dyscrasia is of a tuberculous character. A climate adapted to the constitutional condition is more important than one which agrees best with the local pathological condition. The prolonged administration of various tonics, such as iron, iodine, arsenic and cod liver oil will often be needed. In this class of cases I have at times employed inunctions of the various oils with most satisfactory results.

The subjects of atrophic catarrh, because of their susceptibility to acute inflammatory disorders of the mucous membrane of the upper respiratory tract, should live much out of doors and take daily baths in cold water followed by sharp frictions. They should, of course, be properly clad in suitable undergarments, but now that the material known as linen mesh is obtainable it does not follow that wool should be recommended. Those with whom I have spoken who wear this material for underwear, seem less liable to cold-catching than when they wore wool, probably because of the peculiar drying quality of the goods. The main, and so far as I know the only, disadvantage it has is its high price.

While atrophic rhinitis is often spoken of as the bane of rhinological practice we, nevertheless, have reason to congratulate ourselves upon the advance made in the method of treatment in the past fifteen or twenty years. In former times the subjects of the fœtid form of this affection were practically ostracised from society; their very presence was a pollution. To-day if they cannot always be cured the fœtid character of the secretions can be so controlled that others may not be aware of its presence.



## THE MECHANICAL TREATMENT OF ATROPHIC RHINITIS.\*

BY D. BRYSON DELAVAN, M.D., NEW YORK.

The question of the mechanical treatment of atrophic rhinitis as generally understood may be briefly referred to and quickly dismissed.

It may be made to include:

1. Treatment by mechanical means, such as tampons, plugs and bougies.
2. Removal of the diseased membrane by means of the curette.
3. Treatment by various forms of electricity.

1. In dealing with this subject three objects are to be kept in mind: First, the cleansing of the parts; secondly, prevention of the drying of the surface of the membrane and its secretions; and, thirdly, stimulation of the blood vessels of the mucous membrane and its underlying parts. The first necessity will be dealt with by another. The second has been met mechanically\* by Gottstein, who advocated the insertion into the affected nasal cavities of pledgets of non-absorbent cotton which, by their presence in the nose, modify the amount of air admitted and thus, probably, exert some influence in keeping the surface of the membrane moist. Certain authorities have suggested the use of medicated cotton, a decided improvement upon the original plan. Greville Macdonald advocates the employment of tampons for the purpose of reducing the barometric pressure in the nasal cavities, the patient being instructed to breathe through the nose for several hours a day, the passages meanwhile being partly obstructed by the cotton plugs. The result of this is a determination of blood to the surface, which materially benefits the case. In possible support of this idea is the case of an old man with atrophic rhinitis and a large polyp which partly obstructed and decidedly irritated the middle and lower part of the nasal cavity. As long as the polyp remained in place the patient was in comparative comfort, the membrane being moist and clean. Unfortunately this highly valuable and inoffensive visitor was discovered by the over-zealous owner of a Jarvis snare and promptly removed, to the great subsequent discomfort of the patient, whose atrophic symptoms speedily returned.

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2. Removal of the diseased membrane by means of a sharp curette may in some instances be justifiable. The cases in which this treatment is indicated are those where there are localized areas of tissue, partly hypertrophic and partly atrophic, generally located at the superior and posterior part of the nasal septum, which resist other attempts at treatment. Any extensive removal of the mucous membrane is, generally speaking, inadmissible.

3. The treatment of atrophic rhinitis by electrical means has been attempted in four widely different ways. The first of these, the galvano-cautery, may be classed with the curette, as applicable to a small proportion of cases and under conditions in general similar to those in which the curette is indicated.

The second electrical method is that of vibratory massage, which, in the opinion of some of its advocates, deserves a leading place among the remedies under discussion.

The third is the direct application to the nasal mucous membrane of the electrical current, either constant or interrupted. The fourth method is that of interstitial electrolysis. Both the second and third methods depend for their efficacy upon the stimulation which they impart to the dry and bloodless parts. They are productive of good results, sometimes in cases of severe character. They are objectionable, however, as requiring long continued, frequently repeated treatment, and as being both beyond the reach of the large majority of patients and beyond the time limitations of the active physician. Practically, for these reasons, they are not extensively used; they are valuable methods, however, and worthy of greater consideration than has ever been accorded them. Full descriptions of the above methods have been repeatedly published, so that it is not necessary to describe them within the limits of this short paper.

Turning now to another point of view of this subject, it appears from all that we see and read of the difficulties of dealing with this disease that its prevention is worth everything. In the clinical experience of the writer, atrophic rhinitis is much less common among certain classes of patients than it was a number of years ago. The explanation of this important observation lies in the fact that nasal diseases in general and obstructive conditions in particular are treated at present with promptness, skill and success. The mechanical removal of an enlarged third tonsil or of an obstructing septal deformity may easily play an all-important part in the subsequent healthfulness of the nasal membranes.

This is especially true in children who, suffering from enlarged adenoid tissue at the vault of the pharynx, have been relieved of it before an attack of diphtheria, scarlet fever, or other locally irritating exanthema, for it is a matter of frequent observation that atrophic rhinitis in children is often a sequel of one of these diseases, especially in cases where nasal breathing has been obstructed prior to the exanthematous attack.

Clearly, the so-called Thornwald's Disease is nothing more nor less than the result of neglected pharyngeal lymphoid hypertrophy. In like manner atrophic rhinitis frequently follows obstructive conditions of the nose.

It follows, therefore, that, in discussing the mechanical treatment of atrophic rhinitis, the influence of surgical measures for the removal of some of its principal causes should be remembered and that for its effective prevention obstructive conditions of the nasal and pharyngeal regions should be promptly recognized and relieved. Regarded from this point of view mechanical means as applied to atrophic rhinitis may assume an all-important role.

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## ATROPHIC RHINITIS; ITS TREATMENT BY LOCAL MEDICATION.\*

BY CHAS. H. KNIGHT, M.D., NEW YORK.

The length of the list of remedies used in atrophic rhinitis is an indication of the desperate straits befallen the therapeutics of this obstinate condition. New detergents, new stimulants, new astringents, new antiseptics have followed each other only to be abandoned in disappointment, until a large proportion of practitioners have come to the conclusion that about all we can do is to "keep clean." While this rather pessimistic view is not wholly justified it must be admitted that certain cases are incurable. It is impossible to tell beforehand what results may be attained, and it has doubtless been the occasional fortune of each one of us to witness amelioration in cases apparently hopeless. In other words, it is difficult to determine positively by superficial observation to what degree of degeneration the mucosa has advanced.

I wish to premise the few words I have to say concerning topical medication by reminding you with all possible emphasis that atrophic rhinitis is not a local disease to be relieved by the use of local remedies only. Whatever theory of etiology we may adopt—neurotic, inflammatory, or bacterial—we must recognize the fact that a vicious constitutional state, or diathesis, underlies the local condition and requires correction before we may hope to accomplish much by any course of local treatment. Syphilis, struma and alcoholism are perhaps the most frequent predisposing causes of intra-nasal atrophy. It is also seen in tuberculosis, in anemia and in various conditions of systemic depression. Success in the management of the nasal disease is dependent upon careful attention to hygiene and diet, and upon a rigid observance of the laws of health in general, as well as upon a regulation of the various affections and conditions more or less concerned in its etiology.

One of the most distressing symptoms often present in an atrophic rhinitis is ozena. This much misused term signifies a bad odor which is by no means pathognomonic of atrophy. It is met with in various other conditions, such as syphilis, malignant disease and in nasal obstruction from a foreign body, or from deformity or disease of the nasal fossæ. It is a symptom and in no sense a disease. The odor varies greatly in intensity at different times and it is much more pro-

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nounced in some individuals than others. It may be quite imperceptible to the patient himself owing to impairment of his sense of smell. It is not at all in proportion to the quantity of secretion or much influenced by its quality, since it is sometimes not marked when secretion is profuse; it often persists after the nasal chambers have been thoroughly cleansed. The latter fact would suggest the possible origin of the fetor in an accessory sinus from decomposing secretion retained in that situation. But in many cases it is possible to exclude sinus disease with certainty. Hence I am led to believe that in certain persons the secretions or the tissues themselves possess an inherent odoriferous tendency or character no satisfactory explanation of which can be given.

As to the comparative merits of powders and solutions for topical use in atrophic rhinitis there can be hardly a question. It seems quite unreasonable to ask a perverted secretion, such as is furnished by an atrophied mucous membrane, to make a solution for us which may be readily prepared outside the body. It is much better, therefore, to dissolve our powders beforehand, and if necessary, applications of the solution may be made often enough to keep up a persistent and prolonged effect.

No argument is needed to prove that any medication whatever of accumulated and decomposing secretion must be unavailing. In other words, preliminary and thorough cleansing of the mucous membrane is absolutely essential. For this purpose alkaline washes are usually recommended, but there is nothing to equal a normal salt solution. It is customary to direct our patients to put a teaspoonful of table salt in a pint of warm water and spray the solution into the nose with a coarse atomizer, or use a douche, or nasal syringe, or simply snuff the fluid into the nostrils from the hand. In many cases, especially at the beginning of treatment, the viscid and tenacious secretions cannot be dislodged in this way, but the mucous surface must be exposed by systematic brushing with sterilized cotton wound on the end of a nasal probe, the crusts and dried mucus having been first softened by the use of a coarse spray, or if they invade the rhinopharynx, as is often the case, by means of the post-nasal syringe.

The surfaces having been thus prepared, we are ready for the selection of a medicament.

At the present time I shall speak of only three or four drugs which have been found useful.

1. *Menthol*.—There is no drug that I should drop from my pharmacopeia with more reluctance. Whatever view we may hold of its antiseptic properties, there seems to be no doubt of its effect upon the

quality and quantity of secretion. The former improves and the latter diminishes. Very soon after beginning its use it will be observed that the secretions are loosened and discharged with greater ease. They become more fluid and less abundant. The solution should be as strong as the patient will tolerate. Usually a proportion of five grains to the ounce of fluid albolene is easily borne at the outset, the strength being increased as the treatment progresses. In rare instances the odor of menthol is objected to, and it sometimes causes a slight degree of nausea. It may be necessary to use a weaker solution or discontinue it altogether. The best vehicle is fluid albolene and the application is preferably made with an atomizer. In cold weather the solution may be slightly warmed, simply as a matter of convenience in spraying. As regards therapeutic effects, it seems to make no difference whether the solution be hot or cold, and it is a well-known fact that the temperature of a spray drops almost instantly on its formation even from a very hot fluid, so that, unless a solution is being used in bulk with a douche or syringe, previous warming is quite superfluous.

2. *Formaldehyde*.—This would seem to be an ideal remedy in atrophic rhinitis. It is a powerful antiseptic and deodorant, but at the same time a powerful irritant, and must be used cautiously in hyperesthetic cases. Good results may be obtained with a solution of one part in 5000. It may be used stronger, but frequently must be still further diluted. It should be applied at least twice a day at the beginning of treatment with an atomizer after cleansing with the salt solution. The necessary frequency of the applications precludes the preliminary use of cocaine for the purpose of anesthesia, and some patients will not submit to the pain it causes. There are several commercial preparations of formaldehyde—*formalin*, a forty per cent solution, *boroformalin*, to which is added boracic acid, and *borolyptol*, 1 part to 500 of formaldehyde, are among the best. The last should be diluted ten or fifteen times for use in the nose, and is claimed to retain its germicidal effectiveness when diluted even fifty times. With these preparations the ozena is modified, and in most cases may be completely dispelled. It is well to follow them by a spray of fluid albolene, or vaseline, in order to soothe and protect the surface and to correct the tendency to inspissation of mucus.

3. *Ichthyol*.—This drug has been used in a large number of cases and in many with a gratifying result. The well-known keroline-ichthyol solution has been the preparation generally employed. It is a solution in petroleum and is furnished in a two per cent and a five per cent strength, the latter being preferred in bad cases. The only objection offered to it is its very unpleasant odor, but this is frequently



a matter of no consequence so far as the patient is concerned, and it is certainly less obnoxious than the stench of *ozena*.

4. *Gomenol*.—A fourth preparation seems to merit a little attention—*gomenol*—although my limited experience with it does not permit me to speak of it finally. It is a product of distillation of the leaves of "*Melaleuca Viridiflora*," a tree growing in New Caledonia. It is claimed that experiments made with it abroad show it to possess extraordinary antiseptic power. Moreover, it is absolutely non-toxic and uniritating. It has a peculiar, rather unpleasant, odor. It is provided in several forms for internal as well as external use. My experiments with it have been confined to the so-called "tubes of *gomenol*." The contents of one of these added to a quart of distilled water gives a solution  $2\frac{1}{2}$  parts in 1000. I have also used it in albolene five parts in a thousand. It may be made more agreeable by adding a drop or two of oil of wintergreen to each ounce and in the watery solutions I have generally put ten grains of bicarbonate of soda or boracic acid. It seems to be a promising preparation worthy of further trial.

The question of operative interference in these cases will often arise. It may be laid down as an absolute rule that no operation for removal of tissue should be undertaken in a case of atrophic rhinitis, except in the existence of a deformity or stenosis which interferes with nasal drainage, or forms a site for the lodgment of secretion. All our efforts should be directed toward preservation of tissue and restoration of function.

True ulceration seldom or never occurs, but superficial erosions are sometimes met which need no special attention, since they generally undergo repair as the secretions and membranes acquire a more healthy character.

The excessive volume of air admitted to a dilated atrophic naris, regarded by many as an important factor in causing and perpetuating the trouble, may be regulated by the use of a respirator, or by Macdonald's rubber tube device, or simply by wearing a film of absorbent cotton in the nostril, which may be tucked out of sight and which the patient himself may change at pleasure. The replacement of a septum, the deflection of which expands a nostril and favors atrophy of the soft parts, is sometimes indicated.

Thus it appears that atrophic rhinitis is a disease, or, perhaps, more properly the result of a disease, which must be attacked from various directions. No given line of treatment is adapted to every case, and the observance of certain rules with a neglect of precautions equally essential will surely result in failure. If the glandular elements have been

effaced by cirrhotic changes in the membrane, a sort of submucous cicatricial contraction, the prospect of cure is not encouraging. On the other hand, if the process is recognized at its inception, we may hope to do much toward arresting it and restoring the function of the crippled structures.

In conclusion, I trust I may not be accused of undue levity in calling to your notice a most startling theory revived from antiquity by one of our colleagues in a distant city, the adoption of which would compel us to abandon all attempts to cure an atrophic rhinitis. Indeed it would be our duty to encourage and cultivate a tendency to intranasal atrophy. His views were recently published in one of our leading medical journals, from which I quote:

“It has been proven that the cribriform plate of the ethmoid is not impervious to oxygen; then is not æration possible between the nasal and cranial cavities through the cribriform plate? And is not the structure of this plate so wisely designed as to permit some circulation and consequent direct æration of the brain?

“This fact is so patent to me, both physiologically as well as pathologically, that we might speak of these plates as the ventilators of the brain, each ventilator acting for its respective hemisphere, inasmuch as the falx cerebri is attached to the crista galli, which divides the cribriform plate into two lateral halves. This view is at variance with the commonly accepted ideas of laryngologists and rhinologists, but appeals to me so strongly that I do not hesitate to express my views publicly.”

Evidently the presence of normal mucous membrane in the nasal fossæ must be a distinct interference with the beneficent arrangement here described, and its disappearance by atrophy a providential dispensation which it behooves us not to intercept.

147 West Fifty-seventh Street.

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## REPORT OF A CASE OF HYSTERICAL DYSPNOEA.\*

BY F. E. WAXHAM, M.D., DENVER, COLO.

I desire to report a case that to me was unique, having never in all my experience met with a similar case. I am convinced that such cases must be rare.

In the evening of January 1st I was called by a brother practitioner to see a girl, fifteen years old. I was urged to make all possible haste as the patient was choking to death, and it was feared that she could not live until my arrival. The attending physician informed me that he would certainly have done a tracheotomy while waiting for me, had he at hand any instruments whatever with which to have done the operation, as several times she seemed at the point of death.

She had been breathing with difficulty all day, but during the evening had become much worse. The symptoms were certainly most urgent. There was cyanosis, sinking in of the walls of the chest, loud stridor and the patient limp and apparently unconscious. Upon being shaken and aroused she was able to speak only in a whisper. There was no time to lose, as the patient seemed upon the very verge of fatal suffocation. She was placed in position for intubation and the finger introduced into the throat, followed by the tube. Just as the larynx was being engaged the girl gave a sudden spring, nearly out of the hands of the assistants, and the tube passed into the esophagus. I was astonished to hear the patient tell me in a clear loud voice that I hurt her. I was equally astonished to see the respiration perfectly normal, the loud stridor gone and the color returning to the face. All evidence of the former dyspnoea had entirely disappeared as by magic. The tube was withdrawn from the esophagus and she was directed to go back to the bed and behave herself, which she did with alacrity. She was sternly informed that the operation would be repeated if there should be any return of the trouble. It is needless to state that there was no recurrence of the attack and that the recovery was prompt and complete. It was subsequently learned that the patient, a few weeks previously, had seen a little friend and playmate, of whom she was very fond, die from suffocation resulting from laryngeal diphtheria. It was this fact that caused her hysteria to manifest itself as it did. While the diagnosis was poor, on account of the haste and the urgency of the symptoms, yet the treatment was the most effective that could have been administered.

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\* Reported to the Denver Pathological Society.



## SIGMOID SINUS THROMBOSIS.\*

BY JAMES F. M'KERNON, M.D., NEW YORK.

Aural Surgeon to the New York Eye and Ear Infirmary.

Seven cases; the first non-infective, recovery; six infective, five recoveries, one fatal, with remarks upon symptomatology and treatment.

*Case I. Sigmoid Sinus Thrombosis (non-infective), following Mastoiditis, due to Middle-Ear Suppuration. Operation. Recovery.*

As this case has already been reported in the transactions of the New York Eye and Ear Infirmary for 1897, but brief mention will be made of it in this report.

J. M., a German, aged seventeen, occupation cashier, was admitted to my service at the New York Eye and Ear Infirmary, October 28, 1896, giving the following history:

He had always been well until five weeks before, when he was awakened September 20th, at 3 a. m., with a sharp pain in the right ear, throbbing in character. He consulted a physician early in the morning, who ordered the instillation of ear-drops, composed of equal parts of camphor and ether. These he used at intervals of three hours for the next two days, the pain still continuing with headache and tenderness behind the ear. During the night of September 23d, after a severe paroxysm of pain, referred to the right ear and the mastoid region, the ear began discharging. The next morning he consulted his physician again, who ordered the canal syringed with a warm solution of boric acid every three hours. This was kept up during the day, the pain, headache and post-aural tenderness still continuing. At 11 o'clock that evening he was seized with a severe chill, high fever and vomiting. He sent for another physician, who applied a leech over the mastoid region, another in front of the tragus, and ordered an ice coil applied to the mastoid region, which was kept on continuously for seventy-two hours. Under this treatment the pain in the ear and over the mastoid gradually diminished, but the headache still persisted. The discharge from the ear at this time was yellow in color, with no odor. For five days after the coil was removed the canal was syringed every three hours with a warm boric acid solution, when the discharge became thin and watery and ceased

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altogether on the eighth day. At this time he complained of no symptoms, save headache on the right side and marked deafness. He now returned to his duties at the store and said that he felt perfectly well except a dull, heavy pain in the head, referred to the right side, and a slight deafness of the right ear.

October 25th, four weeks later, he contracted a severe cold by standing in a draught between two open doors, and that night the ear began to pain him and the next day it discharged a thick, yellow fluid quite freely. The pain in the ear continued all the next day, the discharge from the canal becoming thicker. In the evening there was severe pain behind the ear, in the region where it had been four weeks previously, and some soreness and swelling in the neck just below the ear; all the symptoms were increasing. On the evening of the second day he consulted his physician, who advised his coming to the infirmary for treatment.

October 28th, when he presented himself at the infirmary, his condition was briefly as follows:

Temperature  $99.8^{\circ}$ , pulse 90, respiration 24. Upon inspection of the ears there was found a thick discharge of yellow-greenish pus completely filling the canal of the right side. The canal was cleansed with bi-chloride 1-3000, and upon wiping it dry there was found to be considerable swelling all along the posterior and upper part, extending to the floor. There was a perforation in the lower half of the posterior superior quadrant, through which the thick discharge was inadequately drained. The tympanic membrane was bulging above and below this point. There was marked tenderness on pressure over the whole of the mastoid process, with well-marked tenderness and some swelling just below the lobe of the ear over the sterno-mastoid muscle. A free incision was made in the drum membrane, the patient put to bed, a Leiter coil applied and the ear syringed every three hours with bi-chloride 1-3000.

October 29th the coil was removed, having been on for twenty-four hours. The thick, yellowish-green discharge from the canal was very profuse, the mastoid still tender, and the swelling and tenderness in the neck about the same as on the day previous. The temperature was  $99.6^{\circ}$ , pulse 84, respiration 28. The patient rested easier and complained of less pain.

Next day, October 30th, the discharge from the canal was unchanged, with swelling of the superior and posterior walls of the canal more marked. Great tenderness over the whole mastoid area, with beginning edema around the post-aural fold, the swelling and tenderness over the sterno-mastoid muscle very marked, and extend-

ing from above downward. The slightest pressure in this region caused the patient to cry out with pain. Temperature was 99.6°, pulse 96, respiration 22.

An operation was decided upon, and the usual preparations made for opening the mastoid. The patient was etherized, and the usual mastoid incision made, extending through the periosteum to the bone, the soft parts retracted, and the mastoid exposed. The bone presented a dark and mottled appearance.

The antrum was opened, and about two drachms of thick, yellow pus, free from odor, was discharged. The pneumatic spaces were completely broken down, pus flowing freely from them. The spaces were curetted, the tip removed, and free communication established between the antrum and middle ear. The curetting was continued along the posterior wall of the antrum, which was found soft and necrotic. Continuing the curetting, the wall between the antrum and lateral sinus was broken down and removed, and the sinus exposed for one and a quarter inches. The dura covering the sinus presented a darker appearance than normal, and felt firm when pressed upon by the finger. The dura over the sinus was opened without any blood whatever flowing from it, and a firm, organized clot was found in the sinus cavity. So firm was this clot that it was extremely difficult to break it up with the curette. The curetting was continued downward toward the jugular bulb, a further portion of the sinus wall being removed to enable this to be done. The clot was firmly imbedded at the junction of the inferior petrosal with the lateral sinus, where they unite to form the jugular vein. It was removed with a small curette, the blood flow established from below, and the hemorrhage controlled by firm packing with iodoform gauze. The curetting was continued above until the torcular was reached. At this point the clot seemed more firmly imbedded than below, as the sinus was small and tortuous, and it was only after the persistent use of the curette, forceps and probe that the clot was removed, and the blood began to flow freely from above, showing that the circulation had been re-established. This hemorrhage was controlled by firm packing with iodoform gauze against the lumen of the vessel. The antrum, sinus and exposed surfaces were now thoroughly dried with cotton sponges wrung out of bi-chloride 1-1000, and packed with iodoform gauze, the external dressing being composed of sublimate gauze and cotton.

From this time the patient made an uninterrupted recovery. At no time was the temperature above 99°.

The day following the operation he complained of a slight headache and pain over the sterno-mastoid muscle, which gradually dis-



appeared in a couple of days. The first dressing was removed five days after the operation, and the wound found perfectly dry. When the gauze was removed from the jugular bulb and the torcular end of the sinus, hemorrhage was only slight and easily controlled by re-packing. The day following the dressing the temperature dropped to  $98.4^{\circ}$ , where it remained until his discharge from the infirmary six days later, and fifteen days from the time of the operation.

It has not been possible to determine the temperature in this case at the onset, or previous to the first application of the ice coil, as the physician who treated him did not register his temperature, stating that at the time his fever was high, and followed soon after by profuse sweating. It is probable that infection of the sinus took place at the time of his chill, through the free venous communication existing between the mastoid cells and the sinus, and the continuous application of the ice coil for such a long period as seventy-two hours had much to do with the formation of such a firm clot and the subsidence of the acute symptoms, for that thrombosis does take place, followed by a spontaneous cure, we know, as cases have been reported in which the symptoms were undoubtedly those of a thrombus, as shown later by autopsies, where the sinus, as well as the internal jugular, had been obliterated. Koerner says that little or no systematic infection takes place where occlusion of the sinus is complete, as it was in this case, and this may explain the lack of certain symptoms at the time of the operation, as chill, rigor, temperature, vomiting, etc.

In all probability this case would have gone on to a complete recovery, even though the clot had been left intact, owing to its non-infective nature.

*Case II. Thrombosis of Sigmoid Sinus, with Purulent Mastoiditis, following an Acute Otitis Media. Operation. Recovery.*

A. K., girl aged three years, native of the United States, was brought to my office December 22, 1895, by her mother, who gave the following history:

Twelve days before the child had complained of pain in the left ear, which was soon followed by a discharge of what looked like a watery fluid. This discharge continued for five days and then stopped. During the time the ear was discharging the pain was lessened, although she cried each night from pain upon retiring. When the discharge almost entirely ceased, the pain became very severe, and she complained of headache and pain behind the ear. The usual old-fashioned family remedy had been used by the mother, viz., a flaxseed poultice over the whole of the side of the head, as

well as the ear, and the canal had been syringed three times a day with chamomile tea. This treatment she had continued constantly for one week. The day before the child was brought to me the mother said she had vomited several times, had a fever, was dull, would not eat and seemed sleepy.

Upon physical examination I found the child well developed for three years of age, though the skin was pale, and of a yellowish tinge. The left eye was partially closed and below the eye edema was present. The tongue was heavily furred and a foul odor was noticeable from the breath. While examining the child, she suddenly vomited, the material being dark green in color, with an unpleasant odor. The temperature taken by the rectum registered 105.3°F., the pulse was 146, respiration 48, heart and lungs negative, and a negative history throughout, except that of constipation from birth.

Examination of the ears disclosed on the left side a thin, watery discharge coming from the canal. Upon introducing a speculum, there was seen to be a contact of the superior and posterior canal walls, with the inferior wall. This prolapsed tissue was of a purplish tinge and rather dry, except the floor, where the discharge had lodged. The auricle stood out prominently from the side of the head, being pushed well forward by a large boggy swelling behind the ear. This swelling extended well up on the side of the head, and over the left temporal region, and as far back as to within an inch of the occipital protuberance. Directly behind the ear and over the mastoid and squamous portion of the temporal bone it was edematous and tender upon pressure. There was no tenderness below the mastoid tip, or over the course of the internal jugular vein.

The serious condition of the child was explained to the mother, and the speedy opening of the mastoid advised, which advice was accepted and an operation was done at the child's home four hours later.

*Operation*—Chloroform was administered, the usual curvilinear incision back of the auricle made, through the soft parts, extending to the bone and the tissues retracted, exposing the mastoid cortex, which was white and glistening.

The antrum was entered, a few drops of pus evacuated, the bone was found softened down to the tip, and all the necrosed mastoid was removed with the curette. The mastoid cavity was very narrow, and of a tortuous shape. Continuing the curetting along the sigmoid groove, a piece of bone was removed near the bend, bringing the sinus into view, which was situated far forward. The dura covering

the sinus was darker in color than normal, and a still further portion of it was exposed (that part situated below the knee). Pulsation was present. Just above the bend of the sinus there was a well defined line of demarkation, as the dura covering the sinus below this point was dark in color, almost black, while beyond this darkened area the dura looked white, glistening, and presented every visual evidence of being normal, and upon opening it, such proved to be the case. The field of operation was irrigated with bichloride and alcohol, preparatory to opening the sinus. Not having an aspirating needle present, an incision was made with a knife lengthwise through the dura, over the sinus, for about half an inch. This was followed by the escape of a few drops of yellowish-looking serum. The opening was enlarged for an inch and a quarter, and a curette passed into the upper portion of the opening, and a rather firm, dark-looking clot half an inch in length and about the size of an ordinary slate-pencil was removed. Hemorrhage at once followed the removal of this clot from the torcular end of the sinus. As the clot lay in the sinus it could be seen very distinctly that the line of demarkation, above spoken of, extended to within a few lines of the point where the dura had been excised, showing that the changes taking place in the dura corresponded to the extent of the clot formation. After controlling the blood flow above, by packing gauze against the vessel, the removal of the obstruction below was begun. Here the clot was partially broken down, and as the curetting was carried nearer the bulb, pus and soft grumous material were removed. It was with considerable difficulty that the return current was established below, as before any current was established a small wire curette and a probe were used for several minutes, and when the blood made its appearance it was not the rapid return current usually seen at this end of the sinus, but rather a slow oozing, increasing gradually in volume, leading me to think its source might be from the inferior petrosal sinus rather than from the internal jugular vein, but as the little patient's condition did not warrant any further delay at that time the wound was hastily cleansed, and a piece of iodoform gauze carried down the blub and firmly packed there. The usual dressing was applied, and the child placed in bed, and surrounded by hot water bottles.

During the last few minutes of the operation, active stimulation, with strychnine and whisky was given, and soon after placing the child in bed the pulse became very weak, respiration shallow, and it seemed as though the end of the little patient was near. Eight ounces of very warm water was hastily injected into the rectum, and was



immediately followed by satisfactory results, as both pulse and breathing quickly responded to this mode of stimulation.

I am unable to say what the temperature of the water injected was, as in the hurry we did not stop to take it, but am sure that it must at least have been close to 130°F., for it was exceedingly hot to the touch.

She came out from the anesthetic fairly well, but was very fretful for three hours afterward. Four hours after the operation her temperature was 102.1°F., pulse 140 and respiration 42.

Five hours later, and nine hours from the time of operation, I was hurriedly sent for, and, upon reaching the house, found the child moaning and tossing from side to side, presenting a picture very similar to that of meningitis.

The temperature was taken and found to be 106.3°F., by rectum. The pulse was rapid and could not be counted and the respirations were 56 per minute. The skin was hot and very much flushed.

Ice caps were applied over the whole of the head, and every twenty minutes an alcohol sponge over the entire body was given, and hypodermically strychnine,  $\frac{1}{50}$  of a grain, and nitro-glycerine  $\frac{1}{50}$  of a grain, alternating, one or the other every half hour. This treatment was continued for four hours before any marked benefit was noticed. At the end of this time the temperature had dropped a degree and a half, and the child was quieter and sleeping for a few moments at a time. The sponge baths were reduced to every hour, and the stimulation diminished to every two hours. Six hours later the temperature registered by rectum 102°F., pulse 140, respirations 31, and the patient was taking milk and resting quietly.

From that time on there was no complication. The temperature on the sixth day reached normal, and remained so throughout, save once or twice a few days later when it rose to 99.4°F., but quickly fell again.

The first dressing was removed seven days after the operation, and the edema of the side of the head, scalp and beneath the eye had disappeared. The wound was healthy, the packing in the bulb and over the proximal end of the sinus was left untouched until the second dressing, four days later, and when removed no hemorrhage took place.

At the present writing, the hearing on the side operated upon is, so far as can be ascertained, normal, as she hears equally well in both ears, after an interval of four years.

There are in connection with this case some points of extreme interest:

*First*—We have here as the result of an acute infectious otitis, involvement of the mastoid structure, which, of itself, is not unusual, but, in addition, we also have a septic infection of the sigmoid sinus, which some writers aver to be a rarity in a child so young. However, I think the fact of its occurring, is explainable. First, the grade of otitis, as shown by the history, makes me feel sure that the character of infection was that of the streptococcus, although a culture was not made. It is well known that where streptococci are present in the pus the infection is far more rapid than when they are absent, hence, if streptococci be present, whether in child or adult, there is far more likelihood of our finding the sinus involved than when they are absent, and when present there is every reason why they should find an easier pathway for entrance through the soft mastoid structures existing in a young child than in those of an adult. Also where the sinus lies well forward, and close to the mastoid antrum, as it did in this case, together with an extremely small mastoid, it becomes much easier, and infection will take less time than where the sinus lies well back or in its supposed normal position. So, I believe, the two principal causes for infection to be: First, the character of the poison, streptococci; and second, the nearness with which the sinus lies to the pus in the antrum, thus giving it a shorter distance for travel, and consequently a more rapid infection will follow.

*Second*—What was the cause of the sudden temperature rise, several hours after operation? Was it septic material, left at the bulb, which later entered the general circulation, thus causing a systemic poisoning, or was it a beginning meningitis, or secondary shock? I confess I am unable to solve it, although I do not believe it was a meningitis. Whatever it was it quickly subsided.

*Third*—Supposing we had a streptococcus infection present, as I believe, existed. Then this would account for the several days of temperature following the operation, for when such an infection exists, it has been my experience that we have a temperature of greater or less degrees, lasting several days, or until the poison has reached the point of elimination from the system.

*Fourth*—The probable cause of the extensive edema of the side of the head and temple was due no doubt to the energetic poulticing by the mother during the week preceding the operation.

The puffiness and edema around the eye was in all probability due to obstructed circulation in the cavernous sinus, or the ophthalmic veins or both, on the affected side.

*Case III. Pyemic Sinus Thrombosis, Complicating Purulent Mastoiditis, with Epidural Abscess and Double Bezold Perforation, caused by Acute Otitis Media. Operation. Recovery.*

T. D., aged twenty-four years, a native of Ireland, applied to the New York Eye and Ear Infirmary, August 9, 1897, for treatment, giving the following clinical history:

Had always been well up to five weeks before, when he experienced a sharp pain in the right ear, followed in a few hours by a discharge lasting two days.

Four days later, pain became very severe in the ear, and two days afterward he felt pain behind the ear, and it was sore when he pressed with his finger upon it. The pain and tenderness had continued without interruption. He had never had any previous ear trouble, and none of the diseases of childhood except measles, when ten years of age. For the past six days he had had intense headache, loss of appetite, vomiting, chills and fever and was very weak, scarcely able to walk. Two days before he had three chills, at intervals of about two hours. He was emaciated and had a pallid septic look, with tongue heavily furred in the center and dry and glazed at the edges. Upon examination of the ear, the canal of the right side was found occluded by contact of the superior and posterior walls extending to the meatus. There was no discharge present. The mastoid was tender and the tissues over it were swollen and edematous. There was a large boggy mass below the tip, extending to within two inches of the clavicle. This mass was about the size of a large goose egg, somewhat similar in shape and exceedingly tender upon pressure. A second mass was present about half the size of the first one and situated posterior to the tip in the occipital region. This mass was sharply defined and as far as one could judge, distinct from the one below the tip. This was also very tender upon pressure.

His temperature was 101.8°F., pulse 128 and respiration 32, and he said he felt chilly. A diagnosis was made of purulent mastoiditis, with Bezold perforation, and a possible thrombus. The patient was advised to have an operation at once, to which he consented.

The urine was examined and found to contain a trace of albumen and two hours later he was taken to the operating room.

*Operation*—Chloroform was administered, the usual curvilinear incision over the mastoid made, from the tip below to a point one inch above the zygoma. The soft parts were retracted and the bone was found dark and soft over the upper two-thirds of the mastoid cortex. The antrum was opened, and contained pus, creamy in



character, with no odor perceptible. Free communication was established through the aditus, with the middle ear. The cortex was removed, down to the tip and the cellular spaces were found all broken down, and contained pus, and a small amount of granulation tissue. After removing the tip and curetting all the softened bone away down to the inner table, a probe was passed downward for about three inches, through a perforation, close to the superior surface of the inner table. This opening was surrounded by necrotic and softened bone, and upon withdrawal of the probe, pus came up through the opening. An incision was made in the neck downward, directly over the center of the pear-shaped mass, for five inches. This incision was carried deeply and a large quantity of pus was evacuated. There were several enlarged glands found along the course of the incision, which were removed, as were also several glands that were found involved in the septic process lying on the sheath containing the carotid artery and internal jugular vein. It consumed several minutes to clear this space, as some of the glands were matted down and closely adherent to the sheath. In removing softened bone posterior and about three-fourths of an inch above the tip, the curette passed through necrotic bone into the soft tissues of the occipital region, through which pus made its appearance. An incision backward through the soft tissue in the occipital region served to evacuate this pus collection, which was considerably smaller than the one below the tip. Another area of softened bone was found above the knee of the sigmoid sinus, and in using the probe carefully here for fear of wounding the sinus, pus was seen to exude where the probe had passed through the softened bone. This necrotic bone was removed with a rongeur and a collection of pus of the same creamy character as that in the antrum and mastoid cells was removed. Altogether it was estimated to have been three drachms in quantity.

The base of this epidural pus collection was formed by that portion of the sinus wall lying above the knee for about one and a half inches, and the dura posterior to the sinus, so that altogether there was an area about one and a half inches long and about an inch in width of exposed dura. That portion of the dura over the sinus was darker in color than usual and quite thickly covered with plastic lymph and granulations. The portion posterior to the sinus was lighter in color and there was only here and there a granulation over it. All the dead bone was carefully removed by the use of the rongeur and curette, so that practically what is known as the sigmoid groove was taken away and the sinus uncovered for two and a half inches. As soon as the sinus was uncovered there was a marked

difference noticeable in its prominence. The lower two-thirds, including the knee, was less prominent than the upper part. That is, the upper, as compared with the lower part, seemed to bulge outward, while the lower part seemed flatter. Upon placing the finger over different areas of the exposed sinus, pulsation was found to be present at every point, though not as strong or forcible, perhaps below, as above. Pulsation was also discernible to the eye.

From the symptoms exhibited by the patient and the extensive purulent condition existing, as well as the appearance of the sinus, it was thought best to open it. The wound was irrigated with bichloride, and this followed by irrigation, with hydrogen peroxide, full strength. A freshly sterilized aspirating needle was thrust into the sinus above the bend, and a straw-colored fluid withdrawn. The needle was again introduced, this time below the knee, and after drawing back the piston nothing came into the barrel of the syringe. Feeling certain that I had to deal with a thrombosed sinus, a longitudinal incision was made through the sinus wall, from the bend above, to the extent of its exposure below. This incision was followed by a flow of pus, darker in color than that evacuated from the mastoid cells, and very thick. There was complete absence of any fluid blood whatever. The incision in the sinus wall was extended upward and backward as far as it had been exposed, and a rather firm straw-colored clot three-fourths of an inch long was removed with the curette, together with a small amount of straw-colored serum. This removal was followed by active hemorrhage, and the bleeding was allowed for a few seconds, and then controlled by a pad of iodoform gauze, placed firmly against the open vessel. The rest of the sinus below was uncovered as rapidly as possible to the bulb. Before trying to establish the blood current here the internal jugular, which had been exposed, was palpated and found to pulsate, and seemed normal in every way. The incision was carried through the sinus wall to the bulb, with still no hemorrhage. By the aid of the curette, small pieces of clot, darker in color than that found above and of a firm consistency, were removed. Considerable granulations were also removed from the lateral wall of the sinus, next to the mastoid. Firm pressure was made upon the internal jugular, as close as possible below the bulb, and a probe and a very small wire curette were used in trying to establish the return current, which was successfully done after two or three minutes' work, for upon releasing the jugular below, the blood at once came through the bulb, and was easily controlled by packing gauze into it. The parts were again irrigated with hydrogen peroxide, and packed with iodoform

gauze, separate pieces being used for the exposed portion of the dura and sinus. The incision over the jugular was closed by sutures. The posterior one was left open and packed. He was returned to the ward as quickly as possible, surrounded by hot water bags and hot bottles and the foot of the bed elevated, as, during the last twenty minutes of the operation, he required almost constant stimulation with whiskey, strychnine and nitro-glycerine. As he did not respond to hypodermic stimulation, eight ounces of a normal salt solution, at a temperature of 118°F., was thrown into the rectum, and was followed by a prompt response by the pulse, as noticed by its increased volume. This was repeated three hours later, as his pulse again became very weak, but responded fairly, though not as well as when the solution was first used.

Six hours after the operation his temperature registered 104.2°F., pulse 156 and respiration 42. He did very well for the next four hours, when his pulse again became very weak, and this time responded but feebly to the saline used in the rectum. After using whiskey, strychnine and nitro-glycerine with but little effect he was given a hypodermic of a solution of camphor dissolved in ether, with a very happy result, as the pulse became stronger, and from this time on he had no further collapse. The next day a slight facial disturbance was present, which afterward gradually disappeared, and could not be noticed by the tenth day. His temperature became gradually lower and on the sixth day registered normal. The wound in the neck healed kindly and the first dressing was removed the eighth day following the operation. There was no hemorrhage from either proximal or distal end of the sinus. From this time on he made an uneventful recovery, sitting up on the eleventh day, and was discharged from the ward and allowed to go home twenty days after the operation. On account of so much tissue having been removed (both bone and soft) there was left a circular sinus perfectly dry back of the auricle, and leading directly down to the drum membrane. This was closed by a flap operation nine months after his leaving the hospital, perfect union resulting and leaving a patent and normal canal. His hearing one year after his discharge from the hospital was, with the acumeter on the side affected, twenty-two feet. The whisper was heard at a distance of twenty-six feet.

There are several very interesting features in connection with this case.

*First*—While it is not so unusual to find a Bezold mastoiditis, it is, however, rare to find a double Bezold so extensive as existed here, for the accumulation of pus from the perforation at the tip was large



in quantity and the glandular involvement in and around it was very marked. The pus from the posterior perforation could have been evacuated without the free opening of the tissues over it, but in these cases I believe it safer to incise down to the abscess floor, thoroughly curette and pack and treat as an open wound.

*Second*—We must pay but little attention to the fact that the sinus pulsates, when there is strong evidence of a thrombus present, for in this case the pulsation was distinct, both to the eye and by palpation, though as previously stated there was less volume to the pulsation below the bend than above, this being due, no doubt, to the fact that below pus was already present, while above the knee the clot was rather firm and not broken down, and there was a small amount of serum in the vessel at this part, surrounding the clot, as proven by the aspirating needle and also when opened. The infection of the sinus probably took place by direct contact from the necrosed bone lying upon it, for here it was covered with plastic lymph and granulations and could easily have become infected in this way.

*Third*—I believe the cause of the temporary facial paralysis to have been due to the too tight packing that was passed through the aditus into the middle ear, for here, with the extensive necrosis which existed, it made after removal an unusually large opening and bled freely, and in dressing was packed firmer than usual to control this hemorrhage. This view is, I think, corroborated by the fact that as soon as the first dressing was removed and the aditus loosely packed the facial disturbance at once began to diminish, and before the next dressing was done there was no evidence of its presence whatever.

It is unfortunate, for future information and reference, that the discharge from the canal as well as the pus from the mastoid, sinus and epidural abscess was not examined to find out the nature of the infection, but, from experience with other cases, I feel sure that the streptococci must have been present here in abundance, and my only excuse for omitting such an important point was the marked serious condition of the patient and my anxiety to relieve him as speedily as possible.

*(To be continued.)*

## SOCIETY PROCEEDINGS.

### NEW YORK ACADEMY OF MEDICINE.

#### SECTION ON LARYNGOLOGY AND RHINOLOGY.

Stated Meeting, March 28, 1900.

WENDELL C. PHILLIPS, M.D., Chairman.

#### **Modified Transilluminator.**

Dr. C. G. Coakley exhibited a modification of the usual instrument for transillumination, which he had devised in order to make it possible to sterilize it readily. The improvement consists in a glass tube, like a test tube, which slips over the instrument, thus protecting the latter from the saliva, and at the same time allowing of a more prolonged examination without annoyance from the heat.

The instrument is manufactured by Messrs. Waite & Bartlett, of New York City.

#### **Rhinitis—Atrophic Chronic.**

This was the special subject for the evening's discussion.

In this symposium the following subdivisions were presented:

*Etiology*—Dr. Francke H. Bosworth.

*Recent Contributions to Etiology and Pathology*—Dr. Jonathan Wright.

*The Importance of Distinguishing Functional Collapse of the Nasal Tissues from Atrophic Rhinitis*—Dr. Clarence C. Rice.

*Treatment by General and Hygienic Methods*—Dr. Thomas R. French.

*Mechanical and Electrical Treatment*—Dr. D. Bryson Delavan.

*Local Treatment*—Dr. Chas. H. Knight.

These papers appear in full in the May Issue of "The Laryngoscope" in the order of their presentation.

#### GENERAL DISCUSSION.

Dr. Van der Walt, of Philadelphia, thought atrophic rhinitis could be explained in most instances from an inflammatory and bacteriological point of view. Before the stage of atrophic rhinitis he could usually detect the purulent stage, and prior to this was a history of

poor general health, or of the occurrence of infantile disease. These diseases he thought were followed by a sub-acute inflammation or by a chronic inflammation, which terminated ultimately in sepsis. This septic condition very commonly extended into the accessory sinuses, and, in time, atrophy was the result. Two or three years ago he had had bacteriological examinations made in 100 cases, and in about 25% of these pseudo-diphtheria bacilli had been found. In addition to the sepsis it seemed to him that there was often a certain amount of auto-intoxication.

Dr. Coyle, of Hornellsville, said that he cleansed the nose with hydrozone and some antiseptic, and then inserted plugs of gauze, which were allowed to remain for twenty-four or thirty-six hours. They invariably gave great relief, far more than the remedies that had been mentioned.

Dr. W. Freudenthal said that it had been his lot to see an unusually large number of these cases. In his opinion, the dryness of the nose was largely attributable to the dryness of the atmosphere in our living rooms. To be comfortable there should be 60% of relative humidity, and there should not be less than 40%, yet actual observation had shown only 30% of relative humidity very frequently and sometimes it had been as low as 15%. By experiment he had found that when absolutely dry air was inhaled, very much more moisture was given off than under ordinary circumstances—in other words, when the air we breathe is abnormally dry, the mucous membrane is forced to do an excessive amount of work. These facts perhaps also explain why in some cases the middle turbinate was apt to be hypertrophied, and the lower atrophied.

He was also interested to hear that Dr. Moure had done work with the internal massage of the nose and throat. But the originators and many contributors to this method were Braun and Laker; especially Laker has written a great deal on this subject. Dr. Freudenthal himself has advised some eight years ago an electric vibrator for the treatment of atrophic rhinitis; he has used it since that time with great benefit to his patients and would not like to be without it.

Dr. Beaman Douglass said he had always looked on atrophic rhinitis as a constitutional disease. He had examined the tissues of atrophic cases with the microscope, and had not found bacteria. The changes in the tissues were fibroid, with atrophy of glandular elements, and disappearance of the cells forming sub-epithelial adenoids larger and bear a strange similarity to those seen in a cirrhotic liver. Atrophic rhinitis he believed to be the result of



internal intoxication. He commented upon the cycles of improvement and decline in this disease, and said that they had seriously interfered with his efforts to determine the amount of benefit from special methods of treatment. Among the older remedies he had found ichthyol the most useful, but he employed it in strong solution—50% or more. It produces a serous exudate immediately, and subsequent absorption of leucocytic infiltration, as he had proved to his satisfaction, shown by microscopical examination. A more novel method of treatment, and one which had seemed to him quite useful in cases of atrophic rhinitis, was the application of carbonic acid gas. It had been earnestly advocated by Dr. Achilles Rose.

Dr. R. C. Myles said that all of the cases coming under his observation had followed the course so graphically outlined by Dr. Bosworth. Reasoning by analogy he was forced to the conclusion that the disease is a specific one, and the cause, he thought, would be discovered in the laboratory. What we called atrophic rhinitis was nothing but the results of the disease that had passed by many years before. The treatment of the future would be carried out in very early childhood. He had found ichthyol by far the best remedy. He used it in the strength of 15 to 25% in solid vaseline, and on certain occasions applied limited quantities undiluted.

Dr. M. D. Lederman said that the very fact that it was a disease seen in early life pointed very strongly to its systemic origin. It was known that ichthyol depended for its action largely upon the contained iodine, and as it seemed so beneficial as a local application he would suggest the internal use of iodine as an adjunct to other treatment.

Dr. Meierhof was of the opinion that this disease was more prevalent among the Slavic races than among the native of this country. His experience had been that of Dr. Delavan, that the disease was less common now than formerly.

Dr. Emil Mayer said that he had noted reports in recent literature of cases of adenoid tissue large enough to require operation which had entirely disappeared after one of the infectious diseases, and hence he thought it quite possible for atrophic rhinitis to follow as a direct consequence of the acute diseases of childhood. By the use of Dr. Van Zandt's very clever and exceedingly efficient hot air apparatus he had been able to secure a degree of cleansing of the nasal passages which had been impracticable by other means.

Dr. Wendell C. Phillips said that he agreed with those who had mentioned ichthyol as the best of all the local remedies. He did not now use the keralene ichthyol, but a 25 or 50% solution of ichthyol

as a final application. In this connection he would emphasize the great importance of absolutely cleansing the surface before making any applications to it. The patient should also be carefully instructed as to the best method of cleansing not only the nose, but the vault of the pharynx. The latter was much more difficult to clean than the nasal passages, yet it should not be neglected on this account.

Dr. Wright, in closing, said that it was interesting to note that old Celsus had made use of the tampon treatment and of the cautery in the treatment of atrophic rhinitis. Nothing gave these patients so much relief as the proper use of the post-nasal syringe when the patient could be taught to use it. One-sided cases of atrophic rhinitis were often cured by straightening the nasal septum.

Dr. Delavan reiterated the statement that he had noted a diminution of atrophic rhinitis among certain classes of patients. It was true that atrophic rhinitis was more common among the Slavic immigrants—that badly-nourished and down-trodden class of people.

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## ABSTRACTS AND BIBLIOGRAPHY.

Arranged and Edited by  
**FAYETTE C. EWING, M.D., St. Louis,**  
with the collaboration of the  
**EDITORIAL STAFF.**

It is our purpose to furnish in this Department a complete and reliable review of the world's current literature of Rhinology, Laryngology and Otology.

Authors noting an omission of their papers will confer a favor by informing the Editor.

### I. NOSE.

**Rhinoscleroma of the Nose and Larynx**—KARL VYMOLA—*Wiener Klin. Rundschau*, No. 51, 1899.

At a meeting of the "Society of Bohemian Physicians" at Prague, held November 20th, the author reported a case of the above trouble. The patient was a thirteen-year-old boy whose troubles began in March, 1898. Nasal respiration was gradually more and more impeded, while hoarseness and a severe cough were associated with his other symptoms.

An examination showed the nose filled with numerous yellowish-green crusts. The alæ of the nose at their attachment were of a cartilage-like hardness. After removal of the crusts, the nasal openings were seen to be reduced to narrow slits by roughened tumors which sprang from the septum and the floor of the nasal cavities. These structures prevented any examination further into the nasal cavities. The soft palate, the pillars, the tonsils and the posterior pharyngeal wall were markedly hyperemic. Consequently posterior rhinoscopy was not practicable. Laryngoscopy showed the glottis obstructed by similar masses springing from the false chords and the posterior surface of the epiglottis. Examination of an excised piece showed the characteristic short rods in capsules.

The case is under treatment with a serum prepared after the formula of Dr. Honl.

VITUM.

**Double Congenital Anosmia**—PLAZEK, Berlin—*Berl. Klin. Wochenschr.*, No. 51, 1899.

The author relates a case and refers to the only other one he has been able to find recorded, that of Zwaardemaker.

In neither of these cases were any of the ordinary tests of smell able to awaken any response. Irritating substances like ammonia were felt as a sense of pricking, and the sense of taste was somewhat defective.

The author is of the opinion that in these cases there is an arrest of development in the gyrus uncinatus, and perhaps a subsequent atrophy of the olfactory tract.

VITUM.



**Clinic Notes**—O. F. BAERENS—*St. Louis Clinique*, December, 1899. EATON.

**The Correction of Deviated Nasal Septa**—RICHMOND MCKINNEY—*Memphis Med. Journ.*, February, 1900.

A detailed description of the technique of the Asch operation. Instead of general anesthesia, the author preferred cocaine. Of five cases operated, four have resulted entirely satisfactory.

W. SCHEPPEGRELL.

**Observation on the Asch Operation for Deviation of the Cartilaginous Septum**—MAX THORNER—*Journ. Am. Med. Assn.*, Jan. 6, 1900.

During the author's early experience deviations of the septum were a veritable bugbear. Since his adoption of the Asch method of operation he finds their treatment satisfactory. The steps of the operation as described are:

1. Preparation of the patient by sterilization of the nostrils and shaving the upper lip when necessary.
2. Anesthesia and placing the patient's head over the edge of the table.
3. Searching for and separation of adhesions between septum and turbinals.
4. Long crucial incision through septum, the two incisions meeting at the most prominent part of the deviation. Incisions made with Asch's septum scissors.
5. The segments are crowded over and their bases are thoroughly fractured with the finger.
6. The over-lapping edges of the segments are compressed with forceps.
7. Hemorrhage is checked with iced sprays and nostrils are cleansed.
8. Introduction of Asch or Meyer tube to support septum.

The after-treatment consists of the frequent removal of the tube and cleansing of the nostrils. ANDREWS.

**Bullet Wound in the Head; Removal of the Bullet from the Nose Twenty Months Afterwards**—CLAUD WOAKES—*Lancet*, January 6, 1900.

A man, aged twenty-four years, late a private soldier, presented himself on June 14, 1899, complaining of a foul-smelling discharge from the left nostril. He gave the following history: On October 20, 1897, he was one of those engaged in the brilliant attack on, and capture of, the Dargai heights, when he was shot from above, the bullet entering the skull just below the left frontal eminence. He became unconscious, but recovering quickly, was able to retire and receive first aid. The superficial wound in the forehead was stitched up. At the same time he expectorated a small piece of lead. He was sent to the base hospital, where his left eye, through

which the bullet had passed, was removed. On examining the left nostril, it was found to be almost closed by a broad bridge of mucous membrane running from the outer wall to the septum. After cutting through this, under cocaine, an examination of the interior of the nostril with a probe revealed a hard, partially movable substance buried in granulation tissue. This examination causing some hemorrhage, an antiseptic and astringent lotion was prescribed, and the patient was told to come again in the following week. On June 21 a clearer view was obtained, and, by seizing the hard substance with a pair of strong nasal forceps passed up the nostril, a large irregular piece of lead was removed without injuring the nostril, with a square inch of khaki attached, which had been carried in with the bullet from the peak of the helmet, the whole being covered with foul-smelling crusts and discharge. The hemorrhage caused by this operation was easily stopped by syringing with hot antiseptic lotion, which the patient was ordered to continue to use for a week, during which time several pieces of bone came away. Besides the discharge before mentioned, the symptoms had been severe headaches and slight attacks of ague; but when the patient was last seen, five months after the removal of the bullet, these symptoms had all disappeared. The bullet measured one inch in length, five-eighths of an inch in breadth, and three-eighths of an inch in width, and it weighs 343 grains. The patient has now a large depressed scar over the left frontal eminence and eyebrow. The left eye is entirely gone, the left antrum is minus its nasal wall, and the anterior two-thirds of the inferior turbinated bone are absent, and there is a small stellate cicatrix in the roof of the mouth slightly to the left of the middle line.

STCLAIR THOMSON.

**Report on Henpuye in the Gold Coast Colony**—ALBERT J. CHALMERS—*Lancet*, Jan. 6, 1900.

Henpuye, or dog-nose, is a disease frequently met with in the Gold Coast Colony and in certain portions of its Hinterland. The hideous deformity of the face which it causes is very striking to anyone who has lived in this part of West Africa. It is also known on the French Ivory Coast under the name of "goundu" or "an-akhre," but "henpuye" is the native name (Appolonian) for the disease on the Gold Coast. The peculiar nature of the disease and the fact that, as far as I could find, very little was known as to its nature, led me to make the inquiries which are now embodied in this report. I regret very much that I am unable to refer to original papers on the subject or to be certain that I have the full literature, but my excuse is that libraries do not exist in West Africa. The only references which I have met with are those mentioned in Dr. Patrick Manson's work on "Tropical Diseases" (page 594), and they are those of (1) Professor Alexander Macalister (Royal Irish Academy, 1882), (2) Surgeon J. J. Lamprey, A.M. S., (*British Medical Journal*, vol. ii, 1887), (3) Dr. Henry Strachan (*British Medical Journal*, vol. i, 1894), and (4) Dr. Macclaud (*Archives de Médecine Navale*, 1895).

Henpuye starts in a native of West Africa during, or soon after, an attack of yaws, in which there is a history of the nasal mucous membrane being attacked, as a small bony swelling symmetrically placed on either side of the nose. This swelling, which is generally oval with the long axis directed downwards and outwards, is attached to the nasal bones, the nasal process of the superior maxilla, and also to the superior maxilla in the more advanced cases. It is produced by the deposition of new bone under the periosteum on the external aspect of these bones and grows slowly in all directions. It in no way affects the mouth or the orbital or nasal cavities in any case which I have seen, and the nasal ducts are quite unaffected. Rarely the growth is asymmetrical, being situated only on one side of the nose. Pain in the nose, with the presence of a sore in that organ, are the symptoms complained of at the commencement of the disease; later, headache is sometimes felt, and pain in the swelling during wet weather. As the growth becomes larger it seriously interferes with the sight by growing up in front of the eyes and even hiding them, but the author has never seen it cause destruction of the eyeball. The growths may remain quite small, or may grow to be large lumps. No case has been reported in which they break down or ulcerate. The following types of cases are fully reported and illustrated: (1) Slightly developed case; (2) moderately developed case; (3) advanced case; and (4) an asymmetrical case. As regards treatment, it has been attempted to reduce them with iodide of potassium, but without success. The only method of treatment appears to be removal by operation.

As regards the morbid anatomy, the periosteum strips off readily, and under this is a thin shell of compact bone which appears somewhat rigid on the side towards the periosteum. The rest of the tumor consists of cancellous bone. The whole swelling cuts readily with bone-forceps, and consists of quite soft bone. On making microscopical preparations there were signs of ossification in membrane proceeding under the periosteum, and the rest appeared like ordinary wide-meshed cancellous bone. The whole process appeared to be that of a slow "osteoplastic periostitis."

*Etiology.*—Two views on the etiology of this disease have been brought forward up to the present time, viz., (1) that the swellings were of a racial character, and (2) that the process was started by the larva of some insect. With regard to the first, the disease is found in Ashantis, Grunshis, Fantees, Ahantas, the Ga people, etc., races quite different from one another, so that this view cannot be entertained. As to the second, there is no evidence which would support the idea that the disease was started by a larva. On the other hand, there is always the history of yaws and of the tumor starting during the attack of yaws—i. e., during the period of eruption or soon after. Then, again, the patients complain of pain in the nose, with, in some cases, distinct history of a sore, and sometimes discharge preceding the swelling. This might be due to some irritation or ulceration of the nasal mucous membrane by the yaws.

STCLAIR THOMSON.



## II. MOUTH AND NASO-PHARYNX.

**Case of Epithelioma of the Tongue**—LLEWELLYN ELIOT—*Va. Med. Semi-Monthly*, Jan. 12, 1900.

The growth had been treated with caustics without success. It was then excised and no signs of return were found eight years afterward. A histological examination showed it to be squamous epithelioma.

W. SCHEPPEGRELL.

**Acute Tonsillitis**—EDWIN GLADMON—*North Carolina Med. Jour.*, Dec. 20, 1899.

Mercurials and calcium sulphide are useful in the early stages, and later the salicylate and benzoate of soda.

Locally hydrogen peroxide and guaiacum are recommended. Protonuclein is useful when the pharynx is involved.

W. SCHEPPEGRELL.

**Remarks on the Best Operation for Removal of the Faucial Tonsils and Adenoid Vegetations in the Vault of the Pharynx—**

EDWARD F. PARKER—*Carolina Med. Journ.*, February, 1900.

For removal of the faucial tonsils, Mackenzie's instrument is preferred, a four per cent solution of cocaine and antipyrine being first injected into the tonsils. The author suggests the possibility of the extract of suprarenal gland being of advantage in this operation.

For adenoids, a modification of the Gottstein curette is preferred.

W. SCHEPPEGRELL.

**The Tonsils as Portals of Infection**—EMIL MAYER—*Journ. Am. Med. Assn.*, Dec. 2, 1899.

The author begins with the statement, that certain forms of infectious diseases follow closely on tonsillar affection, the same micrococci existing in the former as in the latter, and hence are mentioned as being of tonsillar origin. After a comprehensive discussion of the subject he draws the following conclusions:

1. Infection arises in the tonsil.
2. Tonsillar infections are often serious in their sequelæ, and every step to prevent recurrent attacks should be taken.
3. The existing tonsillar disease should be energetically treated.
4. Careful examination and treatment are absolutely essential in the interim.
5. Following angina, the heart and other organs should be examined from time to time.

ANDREWS.

**The Tonsillar Ring**—DERRICK T. VAIL—*Lancet-Clinic*, Jan. 6, 1900.

The tonsillar ring consists of at least seven distinct masses of lymphoid tissue arranged in an annular manner in the pharynx. The upper part of the ring lies in the naso-pharynx and comprises a large central mass called "Luschka's tonsil," "the pharyngeal tonsil," or adenoid vegetations. On each side of this mass is a smaller lymphatic gland overlying and in close proximity to the Eustachian tube orifice. This has been called the "tubal tonsil."

The lower part of the tonsillar ring lies in the fauces and comprises the "faucial tonsils," located between the pillars and the "lingual tonsil," lying on the root of the tongue in front of the epiglottis. The keystone of the tonsillar arch is the tonsil of Luschka, or pharyngeal tonsil. All children have pharyngeal tonsils, but not all have adenoid vegetations. The one is physiological, the other is pathological.

The normal pharyngeal tonsil disappears about puberty, but when diseased may continue even to old age. Of the many evil results of adenoids the most distressing is their remote effects on the ears. While the adenoids may disappear with age, the results do not.

The tubal tonsils closely resemble the others in structure, but are much smaller. They probably only exist when the other adenoid vegetations are exuberant.

In the removal of adenoids these growths should be looked after.

A striking peculiarity of the lingual tonsil is that its hypertrophy is most frequently found in adults.

The principal symptoms of enlarged lingual tonsils are:

1. Sensations of a lump in the throat, which the patient is constantly endeavoring to swallow, but which seems to lie just outside of the reach of deglutition.
2. Early voice-fog, noticed in public speakers.
3. A barking cough at puberty.
4. Constant desire to clear the voice by hemming and hawking, with nothing raised.
5. Relief of symptoms during meal-time.
6. Spasmodic asthma.
7. Globus hystericus.
8. Patient fears there is cancer or consumption of the throat.
9. Vague distress in the throat that the patient cannot locate.
10. Blood-stained sputa.

All of these symptoms never occur in a given case, and usually only a single one predominates.

A case is recorded showing the good results following removal of the lingual tonsil.

ANDREWS.

**Regional Minor Surgery. (Retro-Pharyngeal Abscess, Ludwig's Angina)**—GEORGE G. VAN SCHAICK—*Internat. Journ. Surg.*, Feb., 1900.

There are two methods of opening a retro-pharyngeal abscess. First, by way of the mouth; second, through the neck. If by way of the mouth, the patient's head should be fully extended, in a position lower than the body, in order to avoid flooding the larynx with pus. It is advisable, if possible, to aspirate or to empty the abscess through the small trocar before making the incision. The operation has some dangerous features, not only because the pus may reach the larynx, but also because the patient keeps on swallowing pus for some time. If we have time and facilities for a neat surgical operation, it is, therefore, much better to empty the abscess through the neck.

An incision is made along the anterior border of the sternomastoid till the great vessels are reached, and then by blunt dissection internal to the carotid we reach the walls of the abscess, or, at least, the swollen tissues surrounding it. A finger then placed in the mouth, and another passed in the wound, will give an excellent idea of the exact position of the abscess, which is now opened with a pair of forceps, whose jaws are then separated and withdrawn. Careful washing and drainage then follows.

In a few instances good operators have failed to find pus in this way, and have been compelled, after all, to operate through the mouth. If the latter procedure is adopted, wrap the child in a sheet and use the aspirator or trocar as above described. If the child is restless or frightened, it may be best to use the knife at once. The instrument is to be wrapped in gauze or cotton to within half an inch of the point. A mouth gag is used. The tongue is to be depressed with the left forefinger and the swelling felt, which is often quite low down. The knife must be introduced in the middle line to avoid severe hemorrhage. A cut is to be made downward about half an inch, and the child immediately tilted sharply backward to avoid the entrance of pus within the larynx.

*Ludwig's Angina.*—This affects the floor of the mouth, involving the cellular tissue between the mucous membrane and the mylo-hyoid muscle. Evidences of fluctuation must never be waited for, for sloughing and gangrene are more common than abscess, and the condition is, besides, apt to be fatal if treatment is delayed. It is impossible to thoroughly expose the focus of infection by way of the mouth. A long incision should be made parallel with the border of the lower jaw, cutting through the mylo-hyoid muscle and opening widely the submaxillary space. No pus may be found, or only a few drops of stinking, sanious, turbid fluid. In advanced cases a regular gangrenous condition has developed. The washing out should be done with peroxide of hydrogen or permanganate of potash solution, and all gangrenous spots touched with a strong solution of zinc chloride or with the actual cautery. The process is often so severe that the patients will die of sepsis in spite of such energetic treatment.

EATON.



### III. ACCESSORY SINUSES.

#### A Contribution to the Statistics of Tumors of the Frontal Sinus

—MOSER—*Beiträge zur Klinischen Chirurgie*, Band xxv, Heft 2.

This paper consists of a very full discussion of the growth and peculiarities of two tumors, and a comparison of their structure with that of other tumors reported by various authors.

The first case proved to be an osteoma, having its origin within the sinus, the walls of which were enormously distended. The tumor was encapsuled and laid free in the distended frontal sinus connected only by a broad bony pedicle on the median side. When this pedicle was chiselled off the whole tumor was easily removed.

Following the history of this case is a discussion of various other tumors that have been reported. It appears that they differ materially in their point of origin, some starting from the anterior wall of the sinus, whilst others, as in this case, originate within the cavity. One case, reported by Dürnhöfer, consisted of a thickening and expansion of the anterior wall, so that when the sinus was opened it presented simply an enormous enlargement of its cavity with its anterior wall thickened to 7.5 mm.

As to the therapy of these cases, which, of course, means simply the radical removal of the tumor, each case should be governed by its own conditions. In this particular case under discussion, the growth of the tumor had gradually crowded the right eye forward and downward, although its function was only slightly interfered with. As a result of the operation the eye returned nearly to its normal situation, but an amaurosis developed so that the organ was useless. The author's advice, therefore, is to take heed before performing the radical operation that nothing will result which is worse than the original tumor.

Of course in those cases of enormous development of the tumor where great deformity results, or where life is threatened simply by the encroachment of the tumor on the neighboring structures, we must operate whether or no.

The second case was that of a girl of sixteen, who had been aware of the presence of a tumor since the age of seven. The tumor at the time of the report was about the size of an apple and drove the left eye downward, forward and outward. The skin was freely movable over the entire surface. Along the edge the tumor appeared to show a bony hardness. Toward the center the bony covering dwindled to a mere film. Just over the eye the tumor was soft and gave an uncertain sense of fluctuation.

At the operation this soft portion was found to be cystic in nature. A piece of the anterior wall of the sinus, which was very thin, was removed, and the sinus curetted with a sharp spoon. It was filled with a soft growth resembling blood clots. When the sinus was cleared out it was seen that various pockets extended far out on every side, but farthest toward the back where they reached the vicinity of the body of the sphenoid and possibly into the sphenoidal sinus.

The mass removed from the frontal sinus was examined under the microscope and found to consist of a fibrous stroma, the nuclei of the cells being elongated or spindle-shaped. This stroma was filled with hyaline masses which differed materially from the rest of the structure in that they required different stains to bring them out.

Whether this was a sarcoma or a hyaline degeneration of an endothelioma was not clear. An apparent recurrence of the tumor necessitated a second operation; but it was shown that the second tumor was not a real recurrence, but only an extension of a part of the structure left behind at the time of the first operation. The author, however, evidently leans to the opinion that the growth was sarcomatous in nature, for he gives several brief histories of sarcomata in this situation reported by various authors.

VITUM.

#### IV. LARYNX AND TRACHEA.

**Laryngeal Edema Following the Administration of Potassic Iodide**—GEORG AVELLIS—*Zeitschr. für Prak. Aertzte.*, November 15, 1899.

The author reports another case of this accident. The whole number on record is exceedingly small, not greatly exceeding a dozen altogether. From a study of the cases reported he comes to the conclusion that the edema may occur after only a very few doses have been taken. In his own case three doses only had been administered before the symptoms of edema were manifest. Once the symptoms have subsided the remedy may be again administered, for the system seems easily to acquire a tolerance of it.

The author advises that in cases where the iodide is to be given to patients who cannot be seen daily, they should be instructed to discontinue the medicine at once, should hoarseness or difficulty in swallowing appear.

VITUM.

**The Cure of Stammering and Stuttering**—J. C. CONNELL—*Kings-ton Medical Quarterly*, January, 1900.

An accurate knowledge of the conditions absolutely essential for the articulate formation of syllables is necessary to treatment. They embrace, (1) a sufficient supply of air in the air tubes, and in the accessory tubes as far as the point where articulation is accomplished; (2) subordination of the consonantal to the vocalic action, and (3) the preservation of a certain rhythm, that is to say, a proper sequence of the different acts, so that each is allowed the proper space of time.

Stammering is a fault of articulation of vocalised sound. Stuttering is a fault of co-ordination between articulation and vocalization. In both classes of cases, the apparatus of speech in the mouth and larynx is normal, but the development of the thorax and respiratory system is defective. The individual does not

inspire enough air, and is not economical enough in using it. He may be compelled to stop in the middle of a word to draw breath.

Stammering has relation to vowel sound, involves individual letters and may be detected in an attempt to repeat the alphabet; is not associated with other faulty muscular movement and is seldom due to lack of nervous control.

Stuttering has relation to the pronunciation of consonants, involves only syllables or words; while each separate letter can be delivered. It is associated with spasmodic movements of other muscles, and is worse when the patient is under observation. The party will probably speak without impediment in solitude or in darkness.

In the vocal mechanism there is a decided want of promptitude in the supply of voice for the initial syllable, and in addition the voice is not only lagging but feeble in quality.

Among the causes, are given: *Sex*—Males are affected in the proportion of four to one female; imitation; neuropathic tenderness, with fright or violent emotion as an exciting cause; heredity, often combined with imitation; and real organic disease, a defective development.

The prognosis is most favorable in a patient of twelve to sixteen years, old enough to realize the importance of overcoming the defect and yet not too greatly habituated. If a musical ear is added, it is better still. It is unfavorable in hereditary cases; in congenital irritability of the co-ordinating apparatus; with spasms of the glottis; in advanced years, etc.

Under treatment the writer sketches briefly the many attempts to treat these cases surgically; and states that they form a melancholy chapter in the history of surgery.

The proper time is gymnastic and didactic—beginning with exercises in breathing, vocal gymnastics and exercises in the combination of consonants and vowels. Special teachers are of doubtful usefulness, as being generally unscientific, and ignorant, and disposed to resort to tricks and secret methods.

GIBB WISHART.

#### **Autoscopy of the Larynx and Trachea and its Relations to Esophagoscopy**—ALFRED KIRSTEIN—*International Clinics*, Vol. I, Ninth Series, April, 1899.

It has long been popularly supposed that, since the path through which rays of light must pass from the larynx and vocal cords was naturally an angular one, some means of bending the rays must be employed to make those parts visible. It seems not to have occurred to anyone—or, at any rate, the idea was not put into practice—that the obstacles in the way of direct vision, namely, the epiglottis and the prominence of the base of the tongue, might be removed and the path of the rays of light made a straight one.

The writer asserts that in many cases it is a comparatively simple manipulation to remove these obstacles and thus secure direct inspection of the larynx. He first accomplished this some three



years ago, and has called the method of procedure autoscropy. All that is required is a tongue depressor, properly used. Just in front of the epiglottis is a groove—the fossa glosso-epiglottica—just beneath which is the hyoid bone. The groove marks also the position of the glosso-epiglottic ligament, and it is from this point forward that the tongue must be controlled in order to make the line of vision to the larynx a straight one, for it is just in front of the groove that we find the highest point of the lingual arch. It has been found that if the end of a tongue depressor be placed upon the glosso-epiglottic ligament, and it, together with the hyoid bone, be pressed downward and forward, the epiglottis will fall forward and lie along the upper surface of the blade of the depressor, out of the line of vision. Thus both obstacles may be removed by one and the same manipulation.

A proper position of the head is absolutely necessary, and it is described as being that of "median elevation," *i. e.*, about half way between a position at right angles to the trunk and that of extreme extension.

The old idea that placing a depressor upon the very base of the tongue, behind the circumvallate papillæ, will produce uncontrollable pharyngeal contractions, and even vomiting, is regarded as erroneous, the writer having found that the rear of the tongue is no more sensitive, practically, than the rest of the organ if touched quietly and firmly.

While it is asserted that autoscropy will occupy a prominent place in laryngology, it is not claimed that it will replace the mirror, for there is a large class of people in whom the anatomical configuration of the tongue makes it impossible to see the laryngeal structures satisfactorily by this method, and another class in whom supersensitiveness precludes autoscropy.

Autoscropy promises to be of value in the use of the esophagoscope, an instrument that has not come into general use because of the difficulty in introducing a straight instrument. Ross.

**Asthma and its Treatment**—MURDOCH CHISHOLM—*Maritime Med. News*, Jan., 1900.

The author premises by stating that asthma has been the companion or bane of his life, and that he owes his knowledge of this subject to the regular profession—to Guachs—and like Jermer, to popular observation.

"Asthma is caused by a diseased condition of any one of the parts entering into the reflex arc of the respiratory system, and bears a very close resemblance in many respects to the diseased condition of the reproductive organs, which manifests itself in constantly recurring pathological organisms."

At first the reflexes were rampant during sleep, for the asthmatic habit must be confirmed, and the nervous arc very irritable, before asthma appears in waking hours.

Again, the frequent repetition of stimuli may render the mucous membrane of the respiratory tract and the reflex centers impres-

sionable and irritable, so that habit may be confirmed, although the original cause is removed. This latter point is illustrated in the writer's own case, when he is subject to nightly attacks of dyspnea for months, after the bronchial irritation of the preliminary hay fever subsides.

The asthmatic heading is nearly always engendered by bronchitis, inflammation or irritation. The writer has not met with any cases in which the bronchial centers were irritated primarily. As the result of a pronounced impression upon the peripheral nerves of an organ may determine a modification of function in the center presiding over that organ, we have in bronchitis this pronounced impression—and the result of the stimulations of the center may irritate a habit, which will lead to asthmatic paroxysms without bronchitis.

Granting an impressionable center or pulmonary arc the immediate causes determining spasm after the habit in confirmed may be central or peripheral. This was illustrated to the writer by a very severe asthmatic seizure, the result of seasickness while crossing the Irish channel.

Constipation has also sufficed to produce an attack while accumulation of uric acid in the system may irritate the bronchial tract.

The author believes that prevention is better than cure, and treats with alteratives rather than antispasmodics, which he gives long and continuously. Iodide of ammonium or syrup of hydriodic acid given at bed-time are pretty sure to ward off the usual nightly attacks, and given for months at a time may remove the asthma entirely.

Arsenic is also used as having a modifying influence upon the nervous cells. Every case is to be a study by itself, and treatment must be variously directed, as the determining influences are peptic, rectal, nasal or humoral.

GIBB WISHART.

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## V. EAR.

### A General Consideration of Diseases of Ear, Nose and Throat—

WM. J. COX—*Atlanta Journal-Record of Med.*, Nov. 1899.

A short paper with some recognized considerations on this subject.

SCHEPPEGRELL.

### Some Ocular and Aural Manifestations of Hysteria—H. GIFFORD—

*West. Med. Review*, Nov., 1899.

EATON.

### Nasal and Aural Complications in Epidemic Influenza—S. F.

SNOW—*Journ. Am. Med. Assn.*, Nov. 25, 1899.

The importance of ear and nose complications in epidemic influenza impresses itself on us as we come more and more to see that much of the acute suffering in the disease depends upon the severity of these complications. The membrane of the post-nasal

space is affected in almost every case, and in some of the aggressive ones the Eustachian tube, middle ear and mastoid cells become involved in spite of our best efforts. In patients with a fair natural power of resistance proper treatment may prevent the formation of pus, but in those of lowered vitality and diminished resistance the formation of pus in some of the deeper sinuses cannot be prevented. The ethmoidal cavities are particularly susceptible to influenzal inflammation. The severe cranial pains which usually accompany epidemic influenza are not neuralgias, but are due to pressure of nasal tissues or imprisoned mucus. When the nasal mucous membrane is so swollen as to cause pain or retention of secretions sprays or applications should be used. The cautious use of cocaine solution is mentioned. The use of Seiler's, or other alkaline solution, followed by benzoinol, is advocated. Both anterior and post-nasal applications should be made.

Serious middle-ear complications can often be aborted by blood-letting and Politzerization. If the drum membrane becomes bulged it should be incised. The knife should be made to cut the periosteal covering of the inner wall of the middle ear. Mastoid inflammation in any degree demands earnest consideration, and though it may be self-limiting, a few hours delay may mean much to the patient. The blood should be either driven from, or extracted from the part, and whichever plan is chosen it should be pursued with promptness and vigor. Either the ice bag or hot fomentation may be used, but the use of either should be continuous for several hours. It is better to keep the blood out than to have a period of re congestion. The general practitioner should be equipped both with the knowledge and means of attacking the local conditions as well as those of the general system. ANDREWS.

**Diagnosis and Treatment of Middle-Ear Diseases—JAMES H. FARBER—***Journ. Am. Med. Assn.*, Dec. 23, 1900.

The author believes that every physician should have clearly fixed in his mind a simple, concise classification of middle-ear diseases. He has adopted the following:

- Acute catarrhal.
- Chronic catarrhal.
- Acute purulent.
- Chronic purulent.
- Sub-acute intumescent.
- Sub-acute cirrhotic, hypertrophic or atrophic.

A short account of the diagnosis and treatment is given for each of these conditions.

Inability to hear the watch while the voice is heard well, is given as a "new diagnostic symptom of Eustachian stricture."

The author believes that all cases of middle-ear trouble are due to some one or other of the dyscrasias: syphilis, scrofula, rheumatism, etc. ANDREWS.



**Arthur Hartmann**—Taken from the *Berliner Arztecorrespondenz*, No. 15, 1898.

The author reports the case of two children in the common school of Berlin who were so deaf that they were unable to hear the instruction given. Both had been in the lowest class for four years. Proper treatment resulted in rapid improvement in one child while it was without result in the other. The first child was soon placed in a higher grade after having been for four years in the lowest. The author is of the opinion that this sort of thing is not at all uncommon and affects quite a large number of children. The introduction of school physicians would enable those cases which are amenable to treatment to be restored, while the others could be sent to a deaf and dumb institute. VITUM.

**Uncommon Pyogenic Infection of the Middle Ear**—ROBERT SATTLER—*Journ. Am. Med. Assn.*, Feb. 10, 1900.

The author discusses inflammations secondary to operations on posterior and middle-turbinal hypertrophies. Otitis is less liable to follow the use of the cold snare than the galvano-cautery. A case is reported in which an unusually severe otitis followed cauterization of the posterior portion of the turbinal. Twelve days after the nasal operation the mastoid was opened and a large extradural abscess was evacuated. ANDREWS.

**Otitic Pyemia**—EDGAR MEIER—*Münchener Med. Wochenschr.*, Oct. 24, 1899.

The author writes in contravention of the view that there are two or three kinds of otitic pyemia. The varieties given by some authors are pyemia with thrombosis of the lateral sinus; pyemia without a thrombosis of this sinus, where presumably a thrombosis of the small veins of the petrous portion exists, and, finally, a septic condition where the infection is carried through the lymphatics.

The author thinks that in every case a careful examination will reveal a thrombus of the sinus, and says that, in his opinion, those cases which are said to be free from this complication have not been closely investigated. Many cases of thrombus are situated far down even in the bulbus venæ jugularis while the sinus is open above. An exploratory puncture is of no value, for free blood may be obtained even when a thrombus is present. In his own cases he has frequently met with profuse hemorrhage on opening the sinus, and yet when the bleeding had been controlled by the tampon, inspection showed the presence of a thrombus even though it might not be exactly at the point of incision.

The author thinks that this artificial classification of these cases tends to confuse the practitioner, and might perhaps lead him to omit a procedure which would save the patient's life. VITUM.

**Phonetic and Pneumatic Massage and its Application to Diseases of the Ear**—B. S. STEPHENSON—*Journ. O., O. and L.*

Though the author does not consider pneumatic massage a cure—all he believes it an adjuvant without which but little can be done in chronic deafness, tinnitus aurium, etc. He has seen a number of patients removed from direct observation for three years who have retained the full benefits they obtained under treatment by massage. He thinks the rapid strokes frequently employed are responsible for the lack of benefit in many instances. A maximum of thirty strokes per minute gives the ossicular chain and its accompanying muscles and the drum time to use their own power of muscular contraction. A more rapid beat simply produces an anesthesia of the parts and confusion even for a person of good hearing. F. C. E.

**Treatment in Acute Otitis Media**—HUGH EDWARD JONES—*Liverpool Medico-Chirurgical Journal*, No. 36, 1899.

The author emphasizes the importance of the early detection and treatment of suppuration in the tympanum and mastoid in acute otitis media, while fully sharing the general opinion as to the value of radical operative treatment in chronic purulent disease of the middle ear. He submits (1) that once the wall of a great sinus or the dura has been penetrated, there can be no certainty of a successful issue to operative treatment; (2) that while operations for the relief of extra-dural complications of suppurative otitis, *i. e.*, extra-dural abscess, commencing phlebitis, mastoid abscess, cervical abscess, etc., have been invariably successful as far as the complication itself is concerned, these operations, and the radical operation for simple chronic suppurative otitis, have not always resulted in cessation of the discharge, nor in restoration of the hearing power; (3) that with the exception of tubercular cases—and even this is a doubtful exception—all cases of chronic suppurative otitis have once been cases of acute or sub-acute otitis media, and many of them non-suppurative otitis; and, further, that the majority of these cases, by appropriate treatment during the acute stage, might have been prevented from becoming chronic. He cites Downie's statistics, resulting from the examination of 600 children with ear disease of whom 404 had suppurative otitis media, 404 of them resulted from scarlatina, 15 from whooping cough, 3 from mumps, 147 from acute catarrh, 101 during and probably on account of dentition, 8 from syphilis, 40 doubtful history. The author further submits (4) that grave intra-cranial complications may, and often do, arise during the acute stage of suppurative otitis. He has found that extra-dural abscesses are much more likely to occur in the acute than in the chronic stage, thus agreeing with Grunert, who attributes this fact to the presence of pneumococci. He especially draws attention to those cases in which the acuter symptoms of suppurative otitis have subsided in the course of a few days, but with continuance of discharge and deafness, and states that if there is tenderness on pressure or tapping on the base or

apex of the mastoid; if the apex feels to be prolonged on the affected side; if there is a slight cushiony feel on one side as compared with the other; if there is increased heat on one side; if on rubbing the stem briskly on both sides, he finds that one side assumes a dusky red; if there is pain or stiffness on moving the head from side to side, with rigidity of the sterno-mastoid; if several or all of these signs are present, he concludes that an exploration of the mastoid cells is necessary, and in at least four out of five he finds pus.

The author also lays stress on the importance of post-nasal adenoids and of permanent perforations of the membrana in causing relapses or continuous suppuration. P. WATSON WILLIAMS.

### **Combination of Otitis Media and Cerebral Abscess of Nasal**

**Origin**—KOEDEL—*Beiträge zur Klinischen Chirurgie*, Band xxv, Heft 2.

The paper begins with some statistics showing the extreme rarity of cerebral abscess as a result of nasal disease. Then follows the history of a case which is briefly this: The patient, a man of thirty-nine, had suffered from a discharge from his right ear, accompanied by severe pain fifteen years before. At that time several retroaural abscesses were opened, but no operation on the bone was made. Hearing not much diminished. At the same time there was present considerable nasal obstruction. These symptoms have begun to reappear during the last two months and an examination showed a profuse purulent discharge from the right ear and a perforation in the lower anterior quadrant. A muco-purulent discharge from both nostrils. A polypoid thickening of the right middle turbinal. Transillumination negative, or nearly so. Ordinary treatment was adopted. Fourteen days later patient was suddenly seized with fever and severe headache in the frontal and temporal regions. He presented a drowsy, dull appearance and much resembled a thoroughly drunken man. These conditions continuing, he was placed in a hospital and the middle ear opened out into a common cavity with the antrum and the mastoid cells. The antrum and cells contained pus. The patient only partially recovered from the anesthetic and soon died. The autopsy revealed an abscess the size of a hen's egg in the right frontal lobe, which connected with the corresponding frontal sinus by a perforation through its posterior wall. The abscess was situated at the apex and base of the white matter of the frontal lobe.

After this history the author takes up the statistics of the varied reported cases of death from frontal empyema. Among Kuhnt's seventeen cases, five died from intradural abscess. It is a noteworthy fact that in the majority of these cases the naso-frontal canal was freely open, thus showing that the burrowing of the pus into the cranial cavity was not due to an obstructed natural outlet. Hajek, however, attributes these cerebral abscesses mainly to just such an obstructed condition of the naso-frontal duct; his argument being that the duct was really obstructed at first, but that



after the pus had found another exit and pressure was removed, the swelling of the duct disappeared and the passage, therefore, was found patulous at the autopsy.

These cases are rarely operated on during life, for an abscess of the frontal lobe gives rise to no localized symptoms unless it is situated in the left third frontal convolution, when aphasia may appear. Of course if the abscess involves the lateral convolutions, motor symptoms will develop.

The paper closes with a discussion of certain symptoms, such as ataxic gait, headache, etc., which, however, seem to be rather uncertain guides.

VITTUM.

**Fifty-One Mastoid Cases**—D. MILTON GREENE—*Journ. Am. Med. Assn.*, May 20, 1899.

Thirty-six of the cases presented no unusual conditions. Of the remaining fifteen cases each showed some peculiar symptom or condition which the author describes in detail. There were four brain abscesses and one perforation of the sigmoid sinus. No hard and fast rules can be laid down for mastoid operation; the author usually perforates the cells and antrum in the depression one-quarter to one-half inch back of the auditory canal, using a hollow chisel. From this opening he proceeds to remove as much of the bone as is necessary, always having in mind the important anatomic structures.

ANDREWS.

**Küster's Osteoplastic Opening of the Mastoid**—P. PASSOW—*Münchener Med. Wochenschr.*, No. 49, 1899.

A careful review of Küster's paper in the *Centrallbl. für Chirurgie*, No. 43, 1899. The author does not approve of the operation there described. In the case especially of chronic troubles he deems it far better to leave the field of operation open to inspection, until all signs of suppuration have disappeared. This, of course, cannot be done with Küster's osteoplastic method. The author carefully analyses Küster's cases and comes to the conclusion that of the nine reported, only four can be said to have definitely healed.

VITTUM.

**Fractured Base, with Deafness, Tinnitus, Vertigo, Exophthalmus, Facial Paralysis, Mastoiditis**—J. A. STUCKY—*Journ. Am. Med. Assn.*, November 10, 1899.

The patient after a heavy blow on the head was unconscious for a short time. There was no hemorrhage from the nose or ears, but the injury was followed by great tinnitus. A week after the accident he became very deaf in the right ear and had right facial paralysis. Five weeks later he presented a dazed, listless appearance, with bulging of the right eye, and some dimness of vision. The tissues over the mastoid were thickened and painful and there was swelling of the posterior wall of the external auditory canal.

The mind was sluggish and he complained of constant headache, fullness and roaring in the ears, constant vertigo, a feeling as if he would fall to the left, and inability to sleep. There was some aphasia, unsteady gait; speech at times was difficult and incoherent.

In doing the Stacke-Schwartz operation the middle ear was found filled with clotted blood. The operation was tedious because of the great density and thickness of the outer table. The patient made a good recovery. All the symptoms except the facial paralysis disappeared in a few hours. The author assumes that there was fracture of the base of the skull.

ANDREWS.

## VI. DIPHTHERIA, THYROID GLAND, ESOPHAGUS, ETC.

### Proceedings of Kingston Medical and Surgical Society—W. T.

CONNELL—*Kingston Medical Quarterly*, Jan., 1900.

The author exhibited a larynx, pharynx and esophagus from an insane patient, in whom a partially cooked potato,  $1\frac{1}{4}$  by 1 inch, had lodged opposite the cricoid in the esophagus, causing a necrotic ring of mucous membrane, and death by edema of the glottis in thirty-six hours.

GIBB WISHART.

### Carcinoma of the Esophagus—AUGUSTUS A. ESHNER—*Med. Fortnightly*, Feb. 26, 1900.

A white man, aged sixty, was admitted to the Philadelphia Hospital, August 16, 1899, and died September 17, 1899. On admission he complained of cough and expectoration, with inability to retain food. The family history presented nothing noteworthy. Patient denied venereal infection. Cough had existed for a year and there was rather profuse expectoration. For a year there had also been vomiting after eating. The vomited matter consisted of the food last ingested, but never contained blood. There had been considerable loss of weight, and there was also shortness of breath.

Examination of the chest led to a consideration of the existence of tuberculosis. An esophageal bougie, with a bulb one-half inch in diameter, encountered obstruction at a distance of eleven and a half inches beyond the margin of the teeth. The smallest bulb available, one-fourth inch in diameter, passed into the stomach with difficulty at a distance of sixteen inches. The stricture was estimated as being three-fourths of an inch long. Neither tubercle-bacilli nor carcinoma cells could be found in the stomach contents.

On post-mortem there were found chronic fibrous pleurisy, fibroid myocarditis, atheroma of the coronary arteries, tuberculosis of both lungs, a moderate degree of parenchymatous and interstitial nephritis, chronic gastritis, and stenosis of the esophagus, with ulceration.

A careful histological study of some of the tissue proved it to be an esophageal epithelioma.

EATON.

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## OBITUARY.

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Dr. W. McNeill Whistler died in London, February 27th, at the age of sixty-three. His health had been reduced for some time and his demise, though a shock to the medical world, was not a surprise to his many friends.

In America it caused regret not only for his loss to laryngology, for with this realization was mingled the consciousness that he was our own. Dr. Whistler was an American and graduated from the University of Pennsylvania in 1860, and though his distinguished achievements were accomplished on the other shore, their glory shone across the sea and illumined the pages of American Laryngology. We long ago added his name to those of our country's great sons whose life-path lead them away from home, but who, ever and anon, sent back to us glad tidings of well-doing.

There were those of us who were taught of this great teacher, and we count it to our fortune. He wrote little and spoke slowly, but when he did, the professional ear was attuned to hear.

Though Dr. Whistler was learned in all Laryngology, it is for his investigations in syphilitic and tubercular affections of the larynx that he will be best remembered. He contributed the article on Diseases of the Nose in Whane's Medical Dictionary, and for some time was the president of the British Rhinological, Laryngological and Otological Association, the most distinguished body of Oto-Laryngologists in the world. He was brother to the famous artist, an aristocrat by birth, tracing his genealogy of hundreds of years to honorable mention in the classics, but in himself he personified the truest of all aristocracy—the aristocracy of brains and character.

F. C. E.

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## BOOK REVIEW.

**Diseases of the Nose and Throat.** By J. PRICE-BROWN, M.B., L.R.C.P.E., Member of the College of Physicians and Surgeons of Ontario; Laryngologist to the Toronto Western Hospital; Laryngologist to the Protestant Orphans' Home; Fellow of the American Laryngological, Rhinological and Otological Society; Member of the British Medical Association, the Pan-American Medical Congress, the Canadian Medical Association, the Ontario Medical Association, etc., etc. Illustrated with 159 engravings, including 6 full-page color-plates and 9 color-cuts in the text, many of them original.  $6\frac{1}{4} \times 9\frac{1}{4}$  inches. Pages xvi—470. Extra cloth, \$3.50, net. The F. A. Davis Co., Publishers, 1914-16 Cherry street, Philadelphia.

"As a practitioner who for nearly twenty years was engaged in general practice, and who for the last ten years devoted himself exclusively to nose and throat work, he has frequently been struck with small amount of knowledge possessed by the profession at large upon the diseases of these important organs."

In this preface the author emphasizes one of the special features which commends this volume to the consideration of the profession. With a ripe experience of twenty years' general practice preceding his special work in laryngology, the author is eminently qualified to present the results of his work.

We are impressed with the simplicity of arrangement, terse description and practicability of this book.

The author gives valid reasons for the omission of several chapters usually found in works of this class. Diseases of the frontal sinus, the lacrymal canal, diseases of the ear and asthma have been entirely omitted. Diphtheria is also excluded, and while the author is perhaps justified in his statement that "every medical journal can tell the latest with regard to this disease," still it must be considered that diphtheria is essentially and primarily an infection of the throat, and at least the question of diagnosis and pathology of the tissues here affected should be considered.

The illustrations are unusually clear and well selected, and the series of nine full-page colored plates of frozen sections of the head deserve special commendation.

Among recent works in this field this volume should be given prominent consideration, and both author and publisher are deserving of much commendation in the production of the book.

**Encyklopædie Der Ohrenheilkunde.** Edited by DR. LOUIS BLAU, of Berlin, with the collaboration of a large staff of European authorities in Otology. Large octavo. 452 pages. F. C. W. Vogel, Leipsig, Germany, publisher. American agents, Lemcke & Buechner, 812 Broadway, New York; also G. E. Stechert, 9 East Sixteenth street, New York. Bound in one-half morocco. Price, \$5.75, postpaid.

The best endorsement of the advancement and progress of modern otology is the publication of an encyclopedia of this character devoted exclusively to the consideration of this special branch of medicine. In this volume of 450 double column pages are recorded in brief the progress of otological science. It is not a year book, contains but very few references to authors and their writings, but concerns itself essentially with comprehensive descriptions and definitions of every term used in otological science.

# THE LARYNGOSCOPE.

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## ORIGINAL COMMUNICATIONS.

(Original communications are received with the understanding  
that they are contributed exclusively to THE LARYNGOSCOPE.)

### PRIMARY EPITHELIOMA OF THE TONSIL.\*

BY J. M. INGERSOLL, A.M., M.D., CLEVELAND, OHIO.

Primary epithelioma of the tonsil is a rare condition; about 120 authentic cases have been reported. It is estimated by Jonathan Wright to occur about once in two thousand cases of carcinoma of all parts of the body.

The report of the following case is of interest, therefore, on account of its rarity. M. G. was a well-developed, muscular Irishman, forty-two years of age; his family and personal history were negative. Thirteen weeks before he was first seen by me he noticed that his right tonsil began to enlarge slowly and was slightly painful; the tonsil continued to increase in size, and at two different times it had been amputated with a tonsillotome.

When he consulted me the whole respiratory tract, except the right tonsil, was normal. He said he felt well except for the pain in the tonsil, which had been steadily increasing. The tonsil was covered by a fairly firm, irregular, fungoid mass, projecting out about 2 c.m. beyond the anterior pillar. The whole surface presented an uneven, cauliflower-like appearance covered by a mucopurulent secretion. The mass extended upward on to the soft palate, involving both the anterior and posterior pillars; it also followed the anterior pillar downward and extended on to the tongue; posteriorly the growth extended along the posterior pillar downward to its attachment to the pharyngeal wall, but the wall

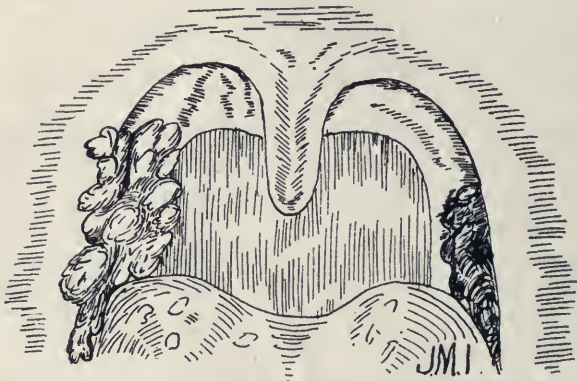
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\* Reported to the Cleveland Medical Society, March 9, 1900.

itself was not involved. The surrounding tissue was inflamed and infiltrated. The lymphatic glands at the angle of the jaw, on the right side, were involved.

From the macroscopic appearance of the tumor the diagnosis of a malignant growth was made and a piece was removed and submitted to Dr. Perkins for microscopical examination: he reported it to be a typical epithelioma.

I explained the situation to the patient and advised him to submit to a radical operation, telling him that such an operation offered him the only possible hope of recovery, and that without an operation he might live a few months, but probably not longer than a year or a year and a half. He asked me if I would promise



Epithelioma of right tonsil.

a cure and I told him "No." He never returned to me. When I last heard of him, he was being treated by a "cancer specialist," who had told him that he would guarantee a cure for \$300 cash, or treat him, without a guarantee, for \$150. It is to be hoped that the patient accepted the latter generous offer and thereby saved enough money to pay for his own funeral expenses.

The accompanying drawing from life shows the position and gross appearance of the tumor.

(Since I reported this case I have learned that the patient died in the office of the "cancer specialist" a few weeks later.)

50 Euclid Avenue.



## SIGMOID SINUS THROMBOSIS.

BY JAMES F. M'KERNON, M.D., NEW YORK.

### PART II.

(Continued from page 306.)

*Case IV. Pyemic Sinus Thrombosis Complicating Purulent Mastoiditis, with Multiple Epidural Abscess, Caused by an Acute Otitis Media. Operation. Recovery.*

C. S., aged fifty-six years, native of Sweden, was referred to me July 25, 1898, giving a history as follows:

Had always been in good health, with the exception of an attack of smallpox in 1874 and an attack of acute gastritis in 1893.

He said that ten weeks before, after three operations on the left nostril for the removal of polypi, he suffered an attack of facial erysipelas, which lasted two weeks. One week later there was intense pain in his left ear, which pain continued for four days, and was so severe it prevented him from obtaining any sleep. At the expiration of this time the drum membrane ruptured, a discharge of pus followed, and the pain was somewhat relieved for two days. On the third day after the rupture of the drum, pain began again, and continued at irregular intervals for the next five days, but it was not so severe that he could not sleep part of each night.

Nine days after the ear pain began he experienced pain in front of his left ear, and the next day a swelling developed, gradually encroaching upon the left cheek. Leeches were applied to this swelling in front of the ear, followed by the application of a hot water bag, and some relief from the pain was obtained. For ten days before he came under my care he complained of almost constant pain over the left side of the head.

Upon examination of the ear a profuse purulent discharge was found coming from the left external auditory meatus, and upon wiping this away, to inspect the deeper structures of the canal, nothing could be seen save a prolapse of the superior and posterior canal walls, which looked red and edematous. In front of the tragus was an irregular swelling, covering nearly the whole of the left cheek and extending downward below the angle of the jaw, which swelling was an enlarged parotid gland with inflammatory tissues surrounding it.

This was extremely tender under pressure and edematous over its central and lower half. There was marked tenderness over the mastoid antrum and at the tip. There was also a fulness of the tissues above and back of the ear corresponding to the temporal ridge, but no tenderness was found upon pressure. There was, however, marked tenderness upon pressure over the left side of the head, particularly over the middle fossa. His temperature registered 100.8° F., pulse 86. The tongue was furred, the breath bad, with a slight odor, and he was intensely nervous.

The discharge from the canal was examined and found to contain streptococci in abundance; also a large number of staphylococci was present. A diagnosis of purulent mastoiditis was made, and opening the mastoid was advised without delay, but this was objected to, the patient saying he felt better now than at any time during the past week. Against the advice received, he went into the country that afternoon, but returned the next day, saying he had had a bad night, with pain in the left ear and headache on the same side, and thought he would remain in the city for a day or two and see how he felt.

He was advised to take a room at the hospital and have an operation that day. He consented to go into the hospital, but as he had heard of ear trouble being stopped by ice bags and various medicament, he insisted that this be tried first. He was put to bed, a free incision was made in the prolapsed canal wall, the bowels thoroughly evacuated, an ice coil applied, not, however, with any hope that it would help the disease, but because something had to be done, and the canal was irrigated with bichloride  $1/4000$  every two hours.

The next day, July 27th, he felt very comfortable, and said he was sure no operation would be necessary; temperature 100, pulse 74.

The coil was removed that evening and he passed a restless night, complaining of headache and ear pain continually. The discharge was now very profuse, a greater tenderness existing over the mastoid than heretofore, with slight edema just anterior to the position of the mastoid antrum. The patient was told he could submit to an operation or he would be discharged, as no more responsibility would be accepted unless an immediate operation was consented to. He reluctantly gave his permission, and as the urine was negative he was taken to the operating room.

*Operation*—Ether was administered, and the usual curvilinear incision over the mastoid was made from the tip to a point one inch above the posterior root of the zygoma, through the soft tissues and periosteum to the bone. The periosteum, which was easily detachable, was retracted backward, the auricle forward, and the surface of the mastoid exposed, which was dark in color and prominent as to size, showing a well-marked supra-meatal spine. Upon opening the antrum an abundance of creamy pus flowed freely outward. The antrum was cleansed of the pus and some granulation tissue, and free communication established through the aditus with the middle ear. The cortex, which was softened, was removed with a ronguer, exposing the cellular mastoid spaces, all of which were filled with pus. The intercellular bone was very dark in color, and found to be soft and necrosed. The cells were obliterated and the inner table found wanting over a considerable area, showing the dura covered with necrotic granulations and bathed in pus. Large medullary spaces were discovered extending back into the occipital bone. On account of this, it became necessary to make an incision backward through the soft parts, at right angles to the former incision, for a distance of two inches, in order that the softened cortex might be further removed and the medullary spaces be reached and obliterated. The bony wall between the antrum and middle fossa was softened and necrotic, and upon removing this, pus, creamy in character, came from the dura, where it had been walled off after its penetration through the bone tissue below.

The sigmoid groove was removed, and in working backward and downward, posterior to the knee of the sinus, the curette passed easily through the bony wall, and before it could be withdrawn, pus, rather dark in color, came through the opening just made. This opening was enlarged, and all softened tissue removed for an area of over an inch. The dura was darker in color than normal and covered with granulations, which were removed with the aid of a dull curette and thumb forceps.

In removing the softened bone over that portion of the sigmoid sinus above the knee, the ronguer was used, and in biting off a small piece of bone a softened and diseased section of the sinus wall, about half as large as the little finger nail, tore away, adhering to the inner surface of the bone. This caused troublesome hemorrhage for a moment, but was soon controlled by packing iodoform gauze over and against the opening.

The further removal of necrotic bone, granulations and pus was continued with until the entire apophysis was taken away and a



considerable area of the occipital bone as well. As the blood current within the sinus seemed normal at the time of its accidental opening no further exploration was deemed necessary here. The wound surface was irrigated with bichloride and packed with iodoform gauze in the following manner :

A single piece was put over the puncture in the sinus and separate pieces were used for each exposed portion of the dura, thus walling off from infection each individual part from the general mastoid cavity, which was firmly packed together with a single piece, carried through the aditus to the middle ear, the usual external dressing was applied, and the patient was returned to his room in very good condition and passed a comfortable night.

The following day his temperature was 102 F., pulse 86, and, though weak, he said he felt better than for several weeks previous. On account of the weakened condition of the pulse he was given by mouth  $\frac{1}{30}$ th of a grain of strychnia at 12 m. At 2 p. m. he felt slightly nauseated and attributed it to the tablet of strychnia he had taken. The tablet was discontinued, and save for a slight headache over the left side he passed a comfortable day and night.

July 30th, two days after the operation, the temperature was 99.2, pulse 82, the bowels were moved, and he took the ordinary nourishment of milk, broth, etc. That night he complained of pain in both ears, and insisted that he was going to have just the same form of trouble in the right ear as in the left. Upon examining the right ear and reporting it negative he went to sleep and passed a good night.

Next day his temperature was 99.6, pulse 88, and he complained of considerable pain in the wound region, was disinclined to take food, and was nervous and fretful. In the afternoon, while still complaining of pain in the wound, the dressing was removed except over the opening in the sinus, and all the parts found to be healthy. The parotid gland was greatly reduced in size and had lost much of its angry look and tenderness. The uncovered portion of the sinus on either side of the gauze, covering the opening, was examined and appeared normal. The wound was redressed, and during the remainder of the day and that night he rested very comfortably.

The next day, August 1st, his temperature was 100.2, pulse 88, and rather compressible. In the evening he complained again of head pains, and asked to have an ice cap applied, which was done, and he soon went to sleep and rested well until morning. That day, August 2d, his temperature in the morning was 100, pulse 94,

tongue furred, bad odor from breath, and felt a disinclination for food of any kind. Toward evening he felt nauseated, but did not vomit, and seemed rather dull and apathetic. The evening temperature was 101, pulse 100, and he passed a restless night. Next morning the temperature was 101.4, pulse 98. He was very dull all the morning, and would sleep at intervals, then start up suddenly and want to get out of bed and sit up. At noon he complained of a dull pain all along his spinal column, extending to the top of his head. In the afternoon he became very restless, his temperature reaching 102.8, pulse 105, and he again complained of nausea. At 10:30 in the evening he vomited a small quantity of greenish looking mucus. After this he became exceedingly restless, and his temperature rose to 103.4, pulse 120 and weak.

I was sent for by the house surgeon, and advised the patient's wife, who was present, that it would be necessary to operate as soon as possible, as I believed we had an infected thrombus to deal with. She requested that the operation be postponed until morning, which was done, and during the remainder of the night he twice vomited mucus of the same character as before, felt chilly, was at times delirious, insisted on sitting up, and was exceedingly restless.

In the morning there was a marked change for the worse in his condition. His temperature was slowly rising, and at 8 a. m. it had reached 104.2, pulse 130 and weak, tongue very dry and heavily furred, and the skin which before had been normal in color, was of a yellowish tinge, and he was in a partially unconscious state. There was also some slight tenderness along the upper part of the internal jugular in the neck.

His wife now consented to the operation, and a hypodermic of  $\frac{1}{30}$ th of a grain of strychnine was given and he was taken to the operating room.

*Second Operation*—Ether was again administered, the dressing entirely removed from the wound surface, and the field of operation cleansed with bichloride and later with hydrogen peroxide, full strength. The portion of the sinus which was exposed at the former operation was seen to be of a dark green color and felt soft to the touch.

The sinus was aspirated, with negative result, and was now rapidly uncovered, an incision being made in the soft part directly backward and the flaps retracted above and below, so as to further facilitate exposure of the sinus. The bone over the sinus was removed toward the torcular for a distance of two inches, and below

down to the jugular bulb. A linear incision was now made throughout the whole length of the exposed sinus wall from the point uncovered above, to the bulb, and at once pus oozed from the lower half of the lumen of the blood channel. The upper part was occupied by a partially disintegrated clot, together with granulations and some pus. This space from end to end was cleansed of its contents and hemorrhage, which was let flow for a few seconds, established from the proximal end, so that in case any septic material was present it would be carried out and away by the flow. A piece of iodoform gauze was placed against the opening to control the hemorrhage. The part below was again cleansed, and the posterior sinus wall examined in the region of the cerebellum, but save for a slight amount of discoloration it appeared normal.

An attempt was now made to establish the current below at the bulb. This was found to be more difficult than above, but by using a very small wire curette the flow was here also established and gauze packed into the bulb to control the return flow.

During the operation the several sites of exposed dura were kept covered with folded pieces of gauze so as not to reinfect these areas. After again irrigating the exposed surface, the wound was packed with iodoform gauze in the manner above described, a bandage applied and the patient taken to his room.

During the operation the pulse became very weak several times and hypodermic injections of strychnine were used three times,  $\frac{1}{30}$ th of a grain each time.

Upon reaching his room the pulse became very weak and he seemed on the verge of complete collapse. The foot of the bed was elevated and a rectal injection of a normal salt solution, one quart, at a temperature of 116° F. was thrown into the rectum and held there by means of an assistant with a compress. Several hypodermics of brandy were quickly injected and external heat applied by means of hot water bags and bottles. Under this treatment he rallied somewhat for a few minutes, but the pulse remained very rapid and weak.

Arrangements were at once made to transfuse him with a normal salt solution, but, in the few minutes, while this was being prepared, he rallied, the pulse becoming stronger and the skin a better color.

In two hours another rectal injection of a normal salt solution was used at the same temperature, and from this time on the pulse remained fairly good.

Six hours after his removal from the operating room the temperature was 99.3, pulse 116, respiration 30. He complained of a



sharp pain in the back, in the kidney region, and hot flax seed poultices were at once applied and kept up continuously for twenty hours. During this time he voided urine twice, was rather restless and vomited a little mucus. Iced brandy was given by the mouth, but, after taking it once or twice, he refused more, saying it nauseated him.

As he had always been accustomed to drinking Irish whiskey when he was well this was ordered to alternate with small doses of champagne every hour. Later he refused the champagne on the same ground as the brandy, but kept to the whiskey, which he seemed to thrive on, and throughout the whole of his convalescence this was the only stimulant he could retain.

The night following the operation he slept about five hours at thirty minute intervals, perspired quite freely, and in the morning said he felt rested.

Twenty-four hours after the second operation the temperature was 99, pulse 94, skin moist, and he was perfectly rational when aroused, but did not want to answer questions. That evening he again complained of nausea, and at 11 p. m. said he felt very chilly, was restless, muttered to himself at intervals, and the temperature rose to 100.6, pulse 110, and he slept but little during the remainder of the night, and then only about ten minutes at a time.

August 6th, two days after the operation, the dressings were removed and the wound surface found in good condition.

For the next four days the temperature ranged from 99 to 101, pulse 86 to 112, weak at times, and in the early morning, between three and seven o'clock, would become irregular. Each night there was mild delirium, lasting sometimes for fully four hours, but during the day he was drowsy, and always refused to take nourishment, saying it made him sick at his stomach.

On the evening of the sixth day, after the operation, he felt chilly, complained of pain in the wound and pain in the back of the neck, and pressure over the internal jugular would cause him to wince, particularly high up near the mastoid wound.

The wound was dressed, and found to be looking well and healing nicely.

During the next three days the temperature ranged from 99 to 102.4, pulse 84 to 120. He did not rest well at night, and only for a few minutes at a time each day, was very thirsty, nervous, had twitching of the muscles of both arms, would have occasional coughing spells, with inclination to vomit after, and frequently complained of feeling chilly. At these times the skin would be

warm, but there was absence of moisture. His breath now became fetid, the stools were very dark in color, with an extremely foul odor, and he complained of flatulence and distress over the abdomen. For this he was given dilute hydrochloric acid, ten drops, in essence of pepsin, after taking food.

The wound was again inspected and found doing well. For the next four days he continued in much the same way, the temperature fluctuating several times a day, but never going higher than 102.4.

The night of the 17th, thirteen days after the evacuation of the pus from the sinus he had a decided chill, vomited, his temperature rose to 103.4, pulse became weak, and he complained of violent pain in the abdomen. Thinking I had here to deal with a metastatic abscess, the colon was flushed with several quarts of a weak boric acid solution, and this was soon followed by ten copious movements of the bowels within the next four hours. The character of the movements was at first dark, stained with blood and mucus, with a distinctive fetid odor. They then changed in character to blood and muco-pus. He was at once put on large doses of the bichloride of mercury internally,  $\frac{1}{20}$ th of a grain every two hours, at first, and later  $\frac{1}{12}$ th every three hours for twenty-four hours. He received stimulation and supporting nourishment, and the movements became less frequent, and in thirty-six hours ceased altogether, at which time the large dosage of bichloride was discontinued.

From this point on he made an uneventful recovery. The temperature dropped to normal and remained so, the pulse became stronger each day, he took more food, and there was absence of the nervousness, chilly feeling, and all other bad symptoms. The wound was dressed every three or four days, and he was soon able to be up and about, and left the hospital on August 31st, one month and six days after his entrance.

At the present time the hearing on the side affected is normal.

There are several points of particular interest in this case to the writer.

*First*—I wish to call attention to the development of the otitis and subsequently to the mastoiditis. That the acute otitis was the direct result, by extension, of the erysipelotus inflammation, traveling through the Eustachian tube and thus infecting the middle ear, I think there can be no question of doubt, as the discharges from the ear and canal showed the streptococci present. It would also be interesting to know if the erysipelas was the result of the operation on the man's nose or if he became infected afterwards.

*Second*—The very complete disintegration of the mastoid and the structures surrounding are, I think, accountable not alone to the length of time the disease existed, but to the virulence of the inflammation, as when streptococci exist in the discharges from the diseased ear we shall, I believe, always find a much greater amount of destruction than when they are absent.

*Third*—*Was my Wounding the Sinus, at the Mastoid Operation, the Cause of the Subsequent Thrombosis?* I believe it was. First, because the man did not show any evidence of a sinus involvement previous to the opening of the mastoid. Second, I believe, from the condition of the sinus, both as to sight and palpation, while operating, that there was a normal blood current within. On the other hand, I have seen subsequent involvement of the sinus in a simple mastoid operation, when the sinus was not even exposed, but where there were streptococci in abundance in the pus from the canal of the affected ear and from the pus that came from the mastoid antrum. So, if streptococci be present, the sinus is far more apt to be found involved, or to become so, than when they are absent. Cases confirmatory of this have been cited, where the sinus was uninvolved at the mastoid operation, but the pus from the middle ear and mastoid contained large numbers of streptococci, and later pyemic sinus thrombosis existed, with fatal results. Certainly, it becomes much easier for the micro-organism to enter the sinus if it find a gateway open, as in this case, than if it were not exposed, and for this reason I think the accidental opening was in this case the cause of the thrombosis.

*Fourth*—Was the removal of the granulations on the dura a contributing cause to the subsequent infection of the sinus? This may have been, as it is well known where granulations are present they act as a protection to the structures beneath them, and when once removed the free vascular supply to the part will cause a very rapid absorption to take place. However, in other cases, I have always removed the granulations when present, and there was no subsequent infection following.

*Fifth*—Another feature of importance is, that in this case, for nearly ten days after the sinus was evacuated of its contents, the patient did not convalesce satisfactorily, and more than once it seemed that it would be necessary to do another operation, but after the metastatic deposit in the intestines had been evacuated, carrying away the major part of the poison in the system, he gained very rapidly, showing that we must take into consideration the fact that in such cases absorption of the infective material has been



going on several hours, to say the least, previous to the operation, and it is not strange that with a system weakened from the disease it should take longer for elimination of the poisonous element to take place.

*Sixth*—In this case we did not have any sudden rise of temperature. It was gradual throughout, with a steady rise up to the time the sinus was opened, and this fact alone was very misleading, and, I must confess, very perplexing at the time when it came to the point of decision as to whether or not a thrombus existed.

*Case V. Pyemic Sigmoid Sinus Thrombosis, with Epidural Abscess and Double Ligation and Resection of Internal Jugular Vein. Operation. Recovery.*

"M. B." girl, aged fourteen years, a native of the United States, was admitted to my service at the New York Eye and Ear Infirmary, April 28, 1899. Her mother, who accompanied her, gave the following history:

When five years of age she had had an attack of diphtheria, and five weeks later she developed scarlet fever and since that time had been troubled with a running from the left ear. At times it would discharge very freely for weeks at a time, then stop gradually for a time to begin again if she took cold. While the ear was running she was free from pain, but the pain always began as the discharge lessened or stopped altogether.

For the past eight months it had been painful nearly all the time, being much worse at night. Three weeks before coming to the hospital the pain had been unusually severe, and for the previous ten days she had been unable to sleep.

Examination of the ears disclosed a purulent discharge, with very foul odor, coming from the canal on the left side. Further examination showed a large polypus in the canal, extending to the meatus, and the mastoid region was edematous and tender upon pressure over its entire area. The head was carried well over to the opposite side and there was marked facial paralysis on the side affected. The tissues as far back as the occipital protuberance were tender upon pressure, as was also the tissues over the upper half of the internal jugular vein, directly beneath the mastoid tip. The skin of the face was of a greenish-yellow color, the tongue heavily furred, and she presented all the appearance of a person suffering from sepsis and she continually spoke of the pain in that side of her head. Her temperature was 102.6°F., pulse 116. An operation was advised and accepted. The discharge from the canal was examined and found to contain staphylococci and streptococci in large numbers.

*Operation*—After the usual preparation of the patient, ether was administered, and the polypus from the canal first removed. It was attached to the posterior portion of the internal tympanic wall. While removing the polypus, the slightest pressure over the mastoid antrum would cause pus to flow from the auditory canal. After the removal of the polypus and the cleansing of the canal, it was found that there was an opening in the posterior wall of the canal at the junction of the cartilaginous and bony portion.

This opening admitted a bent probe directly through and back into the mastoid antrum, the posterior canal wall and medial plate being necrosed.

The mastoid was exposed in the usual manner, and in removing the periosteum from the cortex, it came away in pieces, owing to its diseased condition. The cortex was dark in color, with numerous perforations leading to its cellular structure beneath. Upon removing the cortex, pus was found everywhere in the mastoid, it being a good example of empyema of that structure. All of the mastoid cavity was curetted and softened bone found everywhere. The larger part of the posterior canal wall was removed, and in several places the facial nerve was exposed. There was perforation of the inner table over the sinus, and that portion of the cerebellum lying adjacent, through which foul-smelling pus made its way. The inner table was removed, over three inches of the sinus and a considerable part of the cerebellum behind and below it, and the dura covering these structures was found bathed in pus.

As the necrosed bone extended backward toward the occipital region, an incision through the soft parts was made at right angles to the mastoid incision and when the diseased bone was all removed, a space measuring over four inches from the canal wall backward was exposed. The dura over the whole surface was bulging, black and looked and felt like a piece of roughened leather. It was impossible to distinguish sinus from cerebellum, as the whole surface looked alike, though here and there areas of plastic lymph and granulations were present. The dura was uncovered and after considerable difficulty the sinus found and incised longitudinally, above the knee, with the result of evacuating considerable pus and grumous material. Carrying the incision of the sinus well backward, more pus was evacuated, a broken down clot was removed with the curette, and free hemorrhage established, which was let flow for a few seconds. Controlling the hemorrhage, by packing gauze against it, the lower portion of the sinus was now opened down to the bulb and its contents evacuated, which consisted of pus, broken down clot and granulations.

After two futile attempts to restore the return circulation from the bulb, it was determined to ligate and resect the internal jugular vein. The neck was prepared and it was with considerable difficulty that the internal jugular was exposed on account of the matting down of the tissues and the glandular involvement in this region. The anterior jugular vein was much larger than usual, as was also the superior thyroid vein. Several diseased glands were removed in the course of the dissection, two unusually large ones at the angle of the jaw. After exposure of the internal jugular and ligation at the clavicle below and the bulb above, it was excised and removed between these points. The upper two and a half inches was distended with a septic clot, while below to near the point of ligation it was collapsed, and this in part explained the difficulty in at first finding it when cutting down upon it. The facial vein was also ligated, and a portion of it removed. The tissues were flushed with a hot saline solution, and closed as rapidly as possible from end to end, with a continuous silk suture, the mastoid wound being packed in the usual manner.

During the last fifteen minutes of the operation the patient was stimulated constantly with strychnine, nitro-glycerine and brandy, and before leaving the operating room a warm salt solution, twenty ounces at a temperature of 118°F. was injected into the rectum. This brought the pulse up sufficiently to enable us to remove her to the ward, but as soon as she was placed in bed she collapsed completely.

A very hot normal salt solution was quickly injected into the cellular tissue on both sides of the abdomen. Oxygen was used freely, the bed elevated and she was surrounded by hot packs.

She responded but slowly to all our efforts and for an hour it looked as though she would die at almost any moment. As the oxygen seemed to do her the most good, this was administered at intervals of two minutes each, and in this way she rallied slowly.

Six hours after the operation the temperature registered 102.6°, pulse 156.

From this time on she gained steadily, and for the next five days the temperature ranged from 99° F. to 103°F., never going higher than the latter point.

The wound was dressed on the fifth day and found doing well, and from this time on until her discharge from the hospital twenty days later the temperature gradually dropped until on the twelfth day, it reached normal and did not go beyond 99° during the rest of her convalescence. The pulse for the first three weeks did not



go below 112 to the minute, often being as rapid as 160 per minute, and at the present time—two months and a half after the operation, it ranges from 96 to 110 per minute.

During the whole of her convalescence, the skin of the face, neck and left arm presented a peculiarly blue tint, due, no doubt, to the changes taking place in the venous circulation.

The sutures in the neck wound were all removed on the eighth day, and there was primary union throughout.

One month after the operation, treatment of the facial paralysis was begun by using galvanism, alternating at the end of two weeks, with faradism and facial massage with the result that the paralysis is gradually disappearing.

Her hearing on the side operated upon for the whisper is now ten feet.

During the third week of convalescence she developed a metastatic abscess of the second joint of the third finger of the left hand, which, upon being opened, quickly healed.

*Case VI. Pyemic Sigmoid Sinus Thrombosis, with Abscess of Cerebellum, Double Ligation of Internal Jugular Vein, with Resection of the Vein. Operation. Recovery.*

"L. H.," girl, twenty years of age, native of the United States, was referred to me for treatment, May 22, 1899.

The history she gave was, that when nine years of age she had an attack of measles, and this had left her with a discharge from the right ear, which discharge had continued at irregular intervals ever since. At times the discharge would be accompanied by ear-ache, but never to cause her any great annoyance until three weeks before, when there was severe pain in the right ear for four days, and the discharge became much thicker and of a green color. After one week of the pain in the ear she suffered intense head-ache on the right side and over the mastoid.

As she was at a distance from medical advice, all the treatment she received was an application of a flaxseed poultice over the ear and the right side of the head.

Two weeks after the ear pain began she suffered from chills and fever, and vomited several times. She was then brought to the city and placed under treatment, which consisted of free drainage of the middle ear, irrigation of the canal with bichloride  $\frac{1}{4000}$  every two hours, and an ice coil over the mastoid. Under this treatment the pain subsided somewhat, and the coil was left on for four days.

Upon removing it the pain began again, and two days later I was asked to see her.

She was a large woman, well developed, with an unusually good physique.

Inspection of the ears showed a thick discharge of greenish pus coming from the external auditory meatus of the right side. Upon wiping the discharge away, a prominent bulging and sagging into the canal of the superior and posterior walls was seen. There was but little swelling over the mastoid, and this was at the tip. The whole mastoid surface was exceedingly tender upon pressure, and this tenderness extended backward and below in the occipital region. There was also very acute tenderness below the mastoid tip, over the region of the internal jugular vein. Several glands were also enlarged and tender along the anterior border of the sterno-mastoid muscle. The lightest percussion of the occipital region on that side would cause the patient to scream out with pain.

A diagnosis of purulent mastoiditis, with probable thrombosis, was made and an operation advised without delay.

As the patient wished her mother to be with her when the operation was performed, it was postponed until the following day, when she was admitted to the hospital.

The discharge from the canal was examined, and large numbers of the staphylococci and streptococci were found, the latter being long and unusually large.

*Operation.* Ether was administered, the usual mastoid incision made, and upon exposure of the cortex it was found very much darkened and soft, so that it was not necessary to use a chisel in entering the antrum, as the bone was so soft that it readily gave way under the curette.

The whole mastoid area beneath the cortex was one abscess cavity, the pus dark in color and very abundant. After cleansing this, softened bone was found over the sigmoid groove and posterior to it for two and a half inches. Upon removing this softened bone the dura was exposed, and seen to be covered with plastic lymph and granulations.

A very noticeable feature at this stage was the marked prominence of the sinus. Both above and below its bend it stood out as though pushed there from pressure beneath and behind it, and, as later events showed, this was actually the case.

After establishing free communication with the tympanum through the aditus, and the removal of the tip as well as all soft-

ened bone, the lower portion of the sinus below the knee was uncovered to the bulb, the field then flushed with hydrogen peroxide, and this was followed by alcohol. There was no pulsation at the sinus present, either visual or by palpation, but it felt hard and roughened, considerably more so than the dura over the cerebellum adjacent.

It was uncovered freely above the knee for over two inches, opened, and a disintegrated thrombus, consisting of pus, fibrin, lymph and broken down blood clot removed. After the removal of this substance there was but very slight hemorrhage, but upon using the curette farther back within the lumen of the vessel, a portion of the clot that had broken off and partially obstructed the vessel was removed. After this free bleeding took place for a few seconds, and was then controlled by packing gauze against the lumen of the vessel.

The dura over the lower portion of the sinus, from the knee to the bulb, was now excised, this was followed by a free discharge of pus, and the dura over the cerebellum in this region at once collapsed somewhat. After clearing away the pus it was seen that there was a communication between the posterior wall of the sinus and the right cavity of the cerebellum, through which pus was finding its way to the surface. This opening was enlarged sufficiently to admit the passage of the finger, which was inserted into the cavity, and a space about two and a half inches in depth, extending beneath and posterior to the sinus was found. Upon withdrawing the finger more pus and broken down brain substance came away through this opening. The cavity was gently syringed with a hot normal salt solution, until all the debris was removed, and then loosely packed with sterile gauze and covered with a compress soaked in the salt solution. The lower portion of the sinus at the bulb was relieved of more pus and broken down clot, but this failed to establish bleeding, so it was decided to ligate and resect the internal jugular vein.

The neck region was prepared as quickly as possible, and the internal jugular vein exposed, which was found to be enormously enlarged and distended in the upper half of its course. Just below the bulb it measured one inch transversely, and bulged very prominently into the wound. The facial vein was also ligated and two inches of it excised and removed.

The jugular vein was ligated beneath the clavicle, above at the bulb, and removed. The foramen was cut away, leaving only its base and a portion of its lateral walls.



In still further removing clotted material above the bulb, bleeding took place from the inferior petrosal sinus, and this was controlled by packing gauze into the sinus. During this dissection several large diseased glands were removed in the region of the vein, but there was no matting down of the tissues, as in the previous case.

The soft parts were irrigated with a normal salt solution, made very hot, and closed with a continuous silk suture. The mastoid was dressed in the usual way, and she was taken to the bed in very good condition. It had been necessary to stimulate her only once with strychnine, and that during the last few minutes of the operation.

While she was coming out from under ether, oxygen was given for a moment at a time at frequent intervals, and this seemed to be all the stimulation she required for the next twelve hours.

The following morning her temperature was 102.2° F., pulse 180 and weak, and she complained a great deal of pain in the head. An ice cap was applied, and throughout the day she was given half an ounce of whiskey every three hours, with occasional inhalations of oxygen. During the day the temperature dropped to 100° F., the pulse still continuing rapid, ranging 130 to 170. The face was bluish in color, and this blue tinge remained present for several days.

For the succeeding four days she did nicely, when, on that day, she developed a slight chill, and the temperature rose to 102.8° F. The dressings were removed, and the mastoid and brain wound found doing well, but there was some edema over the middle portion of the neck wound in the region where several glands had been infected. The stitches were removed over this area, and quite a large quantity of pus was evacuated. After relieving the tissues of this pus accumulation, she made an uneventful recovery, the temperature quickly dropping to normal and remaining so throughout, the pulse, however, remaining rapid, and ranging from 110 to 140 per minute.

The brain cavity was dressed every four days, and with two exceptions was found free from pus. At each dressing it was irrigated with a hot salt solution and loosely packed, so as to allow a collapse of the abscess walls.

The wound in the neck healed nicely, and the patient was discharged from the ward service on June 14, 1899, twenty-one days after her admission.

*Case VII. Cerebellar Abscess and Pyemic Sigmoid Sinus Thrombosis, following Purulent Mastoiditis (Bezold), caused by an Acute Otitis Media. Operation. Death.*

K. O., a girl, aged twenty years, native of Germany, applied to the New York Eye and Ear Infirmary for treatment on February 15, 1899.

The history she gave was, that about four weeks before she had contracted a severe cold, and the next day there was a sound in the left ear as though someone were blowing in it. A few hours later pain began in the ear, and this was followed by a discharge from the canal some six days later. Before the discharge began she was able to obtain only a few hours sleep on account of the pain. When the discharge began the pain abated somewhat. On February 3d, twelve days before, the discharge stopped and since then the pain had been very pronounced.

Physical examination disclosed a meatus and canal free of discharge. There was considerable sagging of the posterior and superior canal walls. The drum membrane was bulging, especially the posterior superior portion. There was marked edema over the mastoid, and this edema extended downward into the neck. Posterior to the tip there was a boggy swelling, about the size of a small hen's egg, extending backward toward the occiput.

All this edematous area was very tender upon pressure, and the patient carried the head well over toward the opposite side. She had escaped all diseases of childhood except measles, which she had when she was ten years of age. Her temperature was 102.4°F., pulse 94, tongue heavily furred, with bad odor from breath.

She was advised to remain in the hospital and have an operation performed, which she refused to do. The drum membrane was opened, an incision made in the prolapsed wall, and she was given instructions to irrigate the canal every two hours with bichloride 1/4000; she then left the hospital for her home.

Five days later she again came to the hospital, with all of her former symptoms greatly intensified, saying she had not slept an hour during the five preceding days, and now consented to have an operation performed.

At this time the temperature was 103.2°F., pulse 90 and she looked septic.

An examination of the discharge from the left canal showed the presence of streptococci in abundance.

*Operation*—Ether was used, the usual mastoid incision made, and upon cutting through the periosteum a small quantity of pus escaped in the region of the tip. The cortex appeared to be intact and was dark in color.

Upon opening the antrum a small quantity of pus escaped. The whole interior of the mastoid was found diseased, the curette removing pus, granulations and necrotic bone. The sinus was exposed below the knee, and was observed to be markedly discolored, almost black in appearance.

On further removal of softened bone, the sinus was accidentally opened above the knee, and profuse hemorrhage took place from the torcular end, but none from below. The inferior portion of the sinus below the knee was opened, by slitting the dura, and a small clot of blood covered with fibrin was removed. After this removal, the return current seemed normal and the sinus was packed in the usual manner.

Continuing the removal of softened bone backward from the tip, a perforation was found leading into the bulging mass before spoken of in the occipital region. An incision, at almost a right angle to the mastoid incision, was made over this mass, and about an ounce of dark-looking pus evacuated.

The parts were flushed with sterilized water, and this followed by a flushing with absolute alcohol, the usual dressing applied and the patient returned to the ward.

For the next four days the patient did well, the temperature ranging from 99°F. to 100.4°F., pulse 94 to 100.

On the fifth day there was a gradual rise of temperature to 104.2°F., pulse 110. The patient's condition was one of comfort, and she seemed bright and did not complain.

The eyes were examined by the house surgeon, who reported some redness of the optic nerves, with slight blurring of the edges.

The day following the temperature dropped to 102°F., the patient still feeling comfortable and taking nourishment well.

Dr. Dench was asked to see the case in consultation, and advised against another operation, saying he thought it best to wait and watch developments.

The next day (the seventh from the time of operation), the temperature rose gradually again to 104°F., pulse 102, and I decided that there was sepsis going on and determined to search for it.

*Second Operation*—Ether was again given, the sinus opened at the point of former incision and no bleeding followed. A probe was passed backward, toward the torcular, and this was followed by



quite free hemorrhage. The probe was then passed below, and from the opening made by it a few drops of pus made their way to the surface. The curette was used here, and a considerable quantity of clotted, granular material, together with fibrin and pus, was removed, after which there was free bleeding. This was controlled by a gauze wick passed down to the bulb. The field was cleansed with alcohol and a dressing applied.

Before removing the patient from the table her condition became very weak, and twelve ounces of a hot saline solution were injected into the rectum, with marked benefit.

The pus from the sinus was examined, and found to contain large numbers of the streptococci.

The patient passed a comfortable night and seemed bright and cheerful in the morning.

The eyes were again examined, and the optic discs found markedly blurred, with veins enlarged and torturous.

The patient's condition continued comfortable, and she seemed to be improving.

Two days later the temperature rose slowly to  $104^{\circ}$ , pulse 90, she complained of considerable headache on the left side of the head, seemed a little dull, and at times said she felt cold and wanted more covering put over her. These symptoms continuing throughout the day, I decided to explore further for pus accumulation.

*Third Operation.* Ether was administered, the wound was exposed and the dura around and below the sinus was found to be more prominent than before. A further area of bone was removed below and posterior, exposing the cerebellum. An incision was made in the dura over it, and a large quantity of pus and broken down and softened brain substance removed. The abscess cavity extended behind and around the sinus, and there was a distinct walling off of its contents, as felt by the fingers. The cavity was irrigated with a saline solution, and packed loosely with sterile gauze.

On examining the bulb end of the sinus, a few drops of pus were again found, and for this reason and for the purpose of preventing any further septic absorption, I decided to ligate and resect the internal jugular vein. This was done, ligating it just above the clavicle, and resecting to the bulb, and it was found to contain a clot for a little over two inches below the point of ligation above.

A saline solution was given in the rectum, at the end of the operation and while the patient was on the table, and she rallied well, considering the gravity of the operation and what had been done previously.

During the night she was extremely restless, and it was impossible to keep her quiet. The following day she was still very restless, with mild delirium at times. Her temperature was  $104^{\circ}\text{F.}$ , pulse ranging between 80 and 86, and of a very good volume, but irregular at times; kidneys acting well.

The next day she seemed better. There was no delirium; she was quiet; asked for food and said she felt comfortable. Her temperature dropped to  $102.3^{\circ}\text{F.}$ , pulse 80 and of very good volume, and the tongue, which before had been very dry, was beginning to show moisture.

She continued improving all that day, until 5:30 o'clock in the afternoon, when she suddenly stopped breathing, and all efforts to re-establish respiration were of no avail.

Oxygen and all stimulation were at hand and used persistently, with no response whatever.

During all this time the pulse could be distinctly counted, and it was of fair volume. The pulsations kept growing weaker and weaker, and at the end of fifteen minutes from the time breathing ceased they stopped altogether.

We were unable to obtain an autopsy, so could not determine definitely the cause of death, but believe it to have been due to an embolus in the respiratory center. At the time of death the temperature registered over  $107^{\circ}\text{F.}$

#### SYMPTOMATOLOGY.

*Otorrhea*—The presence or history of a discharge from the auditory canal of the affected side.

*Chills*—They are present in a large proportion of cases, and of the symptoms to be depended upon in aiding us to make a positive diagnosis of sinus thrombosis, the presence or history of a chill, followed by a sudden rise in the temperature, with a remission, and profuse sweating is, if present, one of our most positive signs. Many of the cases come under our observation after the thrombosis has already formed, and in such cases we fail to observe this most important and initial symptom, and in this way are misled as to the true conditions existing. Or, when very little of the septic poison enters the system at a time, instead of a decided chill, the patient complains of a chilly sensation only. This, I believe, should put us on our guard, when a discharge from the ear has existed any length of time, quite as much as when the more decided chill is present, as it only marks a difference of degree in development.

There are cases of thrombosis, however, non-infective in character, giving us no history of a chill whatever.

*Temperature*—This depends on the amount of septic material entering the general circulation, which, if it be large, is immediately followed by a rise from normal to  $104^{\circ}$  F., or even higher, and is quickly followed by a remission to normal or below. If the amount entering the system be small, then the rise is gradual. There is no sudden remission, and the temperature may fluctuate for several days between  $99^{\circ}$  F. and  $101^{\circ}$  F., or thereabouts.

When there is a sudden elevation of the temperature, with the other symptoms usually present, a diagnosis is comparatively easy, but when, as often occurs, there is a gradual rise from normal to  $101^{\circ}$  or  $102^{\circ}$  F., and it remains more or less stationary, and there has been no chill, it becomes more difficult of diagnosis, and it is in these cases that the chilly feeling of the patient is one of our most valuable aids in arriving at a correct diagnosis.

In one of my cases reported the temperature did not rise higher than  $102.2^{\circ}$  F., remaining stationary at this point until after operation, and the only symptom that decided me in operating was this sensation of chilliness complained of by the patient.

A complication which may very materially lower the temperature in sinus thrombosis is the presence of a collection of pus in the brain, and should always be thought of in this connection, when a low temperature exists.

*Pulse*—In the cases of thrombosis, when there is a sudden and high elevation of temperature, there is a corresponding rapidity of the pulse rate, ranging between 110 and 160, and often more, per minute; but when the cases of a low temperature range occur, the pulse is often less than 100 per minute, and in one of the cases here reported, complicated with an abscess of the cerebellum, it never became more rapid than 85 per minute. In my two cases of jugular resection, the pulse rate was rapid for several weeks after the operation, even though the temperature was normal.

*Pain*—In most cases of thrombosis coming under our notice the degree of pain is greater than that present when only an ordinary mastoiditis exists, and in my own cases this was very noticeable, especially the pain referring to the side of the head and in the occipital region over the torcular. When the internal jugular vein is involved, and the pain extends along its course, I think it is due quite as much to the infected lymphatic chain of glands—if not more—than to the obstruction existing in the vein, for in two cases seen recently, where the vein was involved, there was practically no lymphatic involvement, either visual or by palpation, and these cases exhibited little or no pain along the course of the vein, when pressure was made over it.



*Nausea and Vomiting*—These symptoms are nearly always present to a greater or less degree during the course of a sinus thrombosis, and were present in all the cases here reported, beginning with a slight nausea, and increasing as the disease developed, until vomiting took place.

*Respiration*—During the early stages of thrombosis the respirations are but little affected, but in the later stages they are more rapid, and in two of the cases here reported reached higher than 60 per minute.

*Vertigo*—Usually present when the meninges are involved, it was not observed in any of my cases.

*Consciousness*—This was diminished to a marked degree in all my cases operated upon, except one, the third, and with this exception all the cases I have seen exhibited at some time or other during the course of the disease, this lack of normal cerebration. A good example of this would be the slow and hesitating manner with which the patient would attempt to reply to a question, showing that this function was distinctly interfered with. The meningeal type of this disease we are unfortunately too familiar with for an enumeration of the symptoms here.

*Intra Ocular*—A neuro-retinitis is present in a certain number of cases. Of the seven cases here reported, six were examined, and such changes found in only two of the cases. Motor disturbance sometimes present was absent in all the cases here reported. Puffiness of the eyelids on the affected side was present in two cases, probably caused by extension of the clot to the cavernous sinus on that side, and an interference also with the ophthalmic return circulation.

*Constipation*—In all the cases coming under my observation this symptom was present, and is one that I believe co-exists with the earlier stages of this disease. In the later stages of the disease of the abdominal type, or when there is an advanced general sepsis, then diarrhœa is present. Septic enteritis, with a metastatic deposit of the intestines, was present in my fourth case, and for several days prior to the evacuation of the deposit presented very much the clinical picture of typhoid fever.

Of the local symptoms, the presence of edema of the mastoid region, and edema over and around the exit of the mastoid and occipital veins, the so-called Griesinger's symptom was present in five of the seven cases operated upon, and this system was present in the other cases of septic thrombosis of the sigmoid sinus seen recently.

A symptom described by "Gerhardt," and called after him, is said to demonstrate that when pressure is exerted over both the external jugular veins, that it will show a marked increase in the quantity of blood passing through the vein of the unaffected side. Whiting also cites a case confirmatory of this. In four cases I tried to demonstrate this to my satisfaction, but was unable to notice any increase in the flow through the opposite vein.

In all of my cases there was a marked stiffness, and in two instances rigidity of the muscles of the neck on the affected side, and in all the cases I have observed this condition was present to a greater or less degree, so that I believe this symptom to be a more or less constant one.

I have never been able to demonstrate a hard cord like swelling in the neck along the course of the internal jugular vein, though I have tried repeatedly before operation to do so, and in one of my cases, the sixth, the vein was enormously distended and contained a firm clot, so that it would seem that here was a favorable case to demonstrate this symptom, but I could get no positive evidence of such a condition by palpation.

In two of my jugular cases, the lymphatic glandular involvement, both superficial and deep, was very marked and was a valuable aid in diagnosis, though their involvement does not always indicate phlebitis of the veins, as in a Bezold perforation the lymphatic infection in this region may be a prominent feature, so their presence in this situation is by no means always secondary to jugular involvement.

Among some of the general symptoms at the outset of the disease may be mentioned malaise, loss of appetite, a heavily furred tongue, and a foul breath. The face wears an anxious and pallid look, the skin is dry and later presents a yellowish tinge, indicative of sepsis. Nearly all these symptoms enumerated were present in the cases reported in this paper.

It is said that sinus phlebitis is a disease of adult life, but in the second case of this series we have it existing in a child three years of age. So, I think it may be said that this disease will occur, when favorable conditions for its development be present, whether in adult or child.

*Treatment*—The method of treatment in this disease cannot, I believe, be summed up by saying we should always pursue the same course with all our cases, but that we should treat each individual case as seems best to us at the time we are dealing with it.

A complete and thorough exposure of the sinus before opening it is desirable in all cases. The field of operation should then be flushed with peroxide of hydrogen (and I have never seen any ill effects from its use in full strength). This should be followed by a second flushing, with absolute alcohol. A freshly sterilized aspirating needle (recently tested) should then be thrust through the dura, covering the sinus. The part usually explored first is that lying above the bend or knee, and the other portions of the sinus can be explored in a like manner. The needle should be introduced, not directly downward, but for some distance (one to two inches), along the lumen of the vessel. If a negative result be obtained, and one is still in doubt on account of the physical appearance of the sinus, it is better to make a small opening in the dura, covering the sinus with a scalpel, than to limit the procedure to simply an unsatisfactory aspiration.

If a clot is found, then the dura covering the sinus should be opened freely, and the clot removed with the curette, together with any disintegrated material that may be present. When the clot is removed and the blood flow established from the proximal end, it should be allowed to flow for a few seconds, so as to remove any further clot or septic material that may be present in the vessel farther back. The flow of blood is then easily controlled, by packing a small piece of folded gauze directly against the lumen of the vessel. The lower portion of the sinus can be proceeded with in the same manner, and after removal of the clot an attempt made to restore the circulation at the bulb. In a fair number of uncomplicated cases this can be done quite easily, but in others it becomes impossible without dangerous manipulation, and in these cases where the sinus has been free from a septic clot, or the presence of pus, and the region of the neck shows no jugular involvement, I think it better to cease the operative field, and pack the sinus firmly at the bulb with gauze, rather than proceed any further.

If, on the other hand, upon opening the sinus, we find a disintegrated clot or pus, or both present, then I believe, without further manipulation above, we should, as rapidly as is consistent with carefulness, expose, ligate at the clavicle, and resect and remove the internal jugular vein of that side, to its commencement at the bulb.

If the facial, maxillary, thyroids, or other veins be involved, they should be ligated beyond their point of involvement and resected also. All enlarged glands, during the course of the dissection,



should be also removed, so not to leave any possible field for infection subsequently. Care should be taken to completely separate the pneumogastric nerve from the vein at the lower point of ligation, before cutting the vein, as here the vein and nerve lie very close to each other. The soft tissues of the neck should then be flushed with a hot saline solution, and closed by sutures to within an inch of the bulb. After this it becomes an easy matter to remove the pus and disintegrated material left in the sinus. If any sloughing edges of the dura over the sinus be present, they should be removed, as otherwise they retard the healing process. In a septic case, after operation, when the case does not progress as favorably as we think it should, it think it best to wait for a time before any other procedure is instituted; for we must remember the fact that here was a septic case, developing for several days, with a gradual absorption into the system of a poisonous element, and it would be strange indeed did the recovery not show some evidences of a past and present sepsis, while this septic material is being eliminated from the system.

In all cases of aural disease, where a discharge from the ear is present, and particularly in our operative cases, I believe we should always have these discharges examined microscopically, and if so, I believe we shall find the streptococcus to play a most important part in the development of our septic cases, as in every instance where I have had this examination carried out I have found a far greater amount of destruction, both in the soft and osseous tissues, when this particular form of infection predominated.

It is admitted by some writers that when there is marked evidence from the physical signs of the jugular being involved that we should proceed to ligate and resect it before operating upon the sinus above.

I think this good advice, provided we are sure of what we are going to find, but in the majority of cases I do not think a positive diagnosis can be made, as to the condition of the vein, before operation.

The time to operate on a case of sinus thrombosis is as soon as the diagnosis is made, and if in doubt it is better to make an exploratory operation early rather than wait for an array of symptoms that no one familiar with the disease can fail to recognize.

During a prolonged operation for this disease, I know of no method of stimulation that will compare in its beneficial effect with a hot saline enema, given in the rectum, provided the patient becomes weak, and this can be repeated if necessary. If the patient

does not respond quickly, after being put to bed, and it becomes necessary to stimulate by other means, then a direct transfusion of a normal salt solution can be done.

One of the most valuable aids in the immediate recovery of my cases, after operation, was the administration to them of oxygen, while they were coming out from under the anesthetic, and the giving of it to them at stated intervals for a period of four or five days following the operation.

This, with general supporting treatment, constituted the care of the patients.

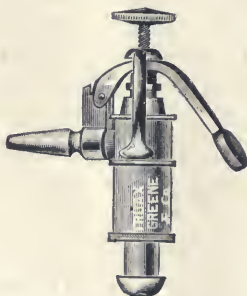
62 West Fifty-second Street.

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### A CONTROLLING, ADJUSTABLE CUT-OFF FOR COMPRESSED AIR.

BY S. S. BISHOP, M.D., CHICAGO.

The accompanying illustration shows a cut-off provided with a set screw which acts upon the thumb lever of the air valve. After connecting the treatment tube with a vaporizer, such as the Globe nebulizer for example, and admitting the air to the tube, a downward turn



Bishop's Cut-Off.

of the set screw will open the air valve of the cut-off to admit as little, or as much, air pressure to the nebulizer as one may require. It may be made to vary from the gentlest pressure up to the full amount conveyed by the connecting rubber tube.

This set screw keeps the air valve open automatically and continuously at the point at which it is set, if the cut-off is properly constructed, with the result of administering a continuous inhalation to one patient while the physician is free to engage in treating others. Much valuable time is saved in this way, since more than one patient can be undergoing treatment at the same time.

The controlling attachment in no way interferes with the employment of the same cut-off for any other purpose, for instance with the Eustachian catheter. It is not intended to supplant the compressed-air meter invented by the writer a number of years ago, for, although it regulates the pressure to a nicety, one cannot determine the exact number of pounds he is using without the meter.

When it is desired to employ this cut-off with ordinary atomizers, dilators, etc., the set screw is turned up so as not to press on the thumb lever, and it is then used like any other cut-off.

I have made another improvement that is a useful feature of this controlling cut-off, although it is not apparent in the cut. It consists of a detachable section that remains permanently attached to the rubber treatment tube whenever the main part of the cut-off is unscrewed and removed from the tube. This allows of detaching the instrument from the rubber tube for repairs, and screwing another duplicate cut-off in its place in a moment, saving the loss of time and annoyance incident to refastening the rubber tube itself and wiring it on again. Of the several inventions devised by the writer for the purposes described, this is the simplest and most effective. It was made by Truax, Greene & Co., of Chicago.

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## SOCIETY PROCEEDINGS.

### THE LARYNGOLOGICAL SOCIETY OF LONDON.

*Fifty-Sixth Ordinary Meeting, March 3, 1900.*

F. DE HAVILLAND HALL, M.D., President, in the Chair.

The following cases and specimens were shown:

#### **Case of Sinuses in the Vault of the Naso-Pharynx.**

Shown by Mr. Charles Heath. The patient, an unmarried woman *et. thirty-one*, had suffered for some years with discomfort in the nose, throat and mouth, with dyspepsia and frequent dyspeptic ulcers on tongue and gums. The nose showed considerable atrophy of the mucous membrane of the middle and inferior turbinals anteriorly and posteriorly; the pharynx being also much atrophied, the cavity large and post-rhinocopy easy. The Eustachian eminences were seen to be enormous, filling the fossæ of Rosenmüller and reaching nearly to the pharyngeal roof. Just behind the upper edges of the choanæ, on each side, there appeared a transverse elliptical opening, which was about half an inch long and one-fifth inch across at the widest part on the left side, and slightly less in each dimension on the right; a probe extends apparently about a quarter of an inch. The openings could be easily felt, and the finger inserted a little into the larger one; but the floor of the cavity could not be felt, as the edges of the opening would yield but little.

Dr. William Hill had seen a similar condition several times, although not so marked as in this case. These were not "sinuses" in the ordinary rhinological acceptance of the term, but merely the two fossæ of Rosenmüller rendered much deeper than normal by the development of steep banks of adenoid tissue. These banks were formed internally by the hypertrophied lateral borders of Luschka's tonsil, and the transverse bands so prominently seen were the remains of the transverse alar laminae of the same tonsil passing across to a large Eustachian cushion.

Mr. Baber had arrived at the same conclusion as Dr. Hill, that the depressions were the upper part of Rosenmüller's fossæ unusually well marked. On examination with the finger, he had not been able to feel any bony growth or sinus.

Dr. Dundas Grant thought these sinuses were formed by the remains of adenoid tissue which had acquired adhesions.

Sir Felix Semon did not share the opinions of the previous speakers. In the first place, he did not think there was any adenoid tissue present at all in the neighborhood of the clefts. Secondly, these fissures traversed a direction parallel to the fossa, instead of longitudinally or vertically, and were infinitely deeper than those he had seen in the most developed cases of fissures in the adenoid tissue. To him it seemed as if there were two deep indentations into the bone itself. He put forward as a hypothesis, that there might be some form of arrested development.

Mr. Spencer did not see with the light available the amount of adenoid tissue that would be necessary to explain Dr. Hill's theory. He should suggest that there were sinuses growing into the bone, and possibly some excessive development of the sphenoidal sinus. He asked Mr. Heath to have a very careful drawing made of the naso-pharynx, as it was an unusual condition, and he suggested that when made the illustration should appear in the "Proceedings." Except that these "sinuses" were bilateral, they might be connected with the development of the infundibulum of the pituitary body.

Dr. Scanes Spicer said the boundary walls of the unusual cavities in the naso-pharynx were quite soft on digital examination. He thought the normal central adenoid tissue of Luschka's tonsil was displaced laterally in this case. This was especially well seen on the left side, where the adenoid tissue of the posterior wall was united to that forming the Eustachian cushion by a fleshy bridge. He could not concur with Mr. Spencer's view as to the depressions being the openings of the sphenoidal sinuses, for the latter were half an inch further forward, more in the nose, and closer to the septum.

Dr. StClair Thomson shared Dr. Hill's view, *i. e.*, that there were no sinuses except by optical illusion. There was quite distinctly an Eustachian tonsil on the top of the cushion, not merely a thickening, and this came into contact with the roof of the cavum, forming a deep recess which gave the impression of a sulcus. He thought that a careful examination under chloroform would reveal no adhesions. Such conditions as these were not at all rare, but fairly common; he had paid a great deal of attention to them, with the object of seeing whether there would be any improvement in ear cases by breaking down the cushions and adhesions, if existing, even when there were no adenoid growths.

Mr. Richard Lake said, as far as the description of the case was given, his opinion coincided with that of Dr. Dundas Grant. These "sinuses" were more outside than usual, but were caused by the pharyngeal tonsil.

Mr. Heath was much gratified by the amount of interest taken in his case. His opinion had always been, and was still, in harmony with that of Sir Felix Semon, that there was some unusual development in this case. Some of the members seemed to have rather mistaken the locality of the sinuses on account of the enormous size of the Eustachian prominences and their upward projection, and thought them further downwards and backwards than they really were; as a matter of fact, they were close under the back part of the roof of the choanæ. The locality was one in which adenoid tissue is rarely abundant, although it often runs towards the septum; the sinus was so close to the choanæ that it could not be of adenoid origin, and in this case there was advanced atrophy of the mucous membrane and no sign of adenoid tissue.

**Case of a Female æt. Twenty-Three, with Obstruction of One Nostril from Antral Affection of Uncertain Character.**

Shown by Dr. StClair Thomson. The patient said that she had not had any nasal obstruction until after acute faceache, some four months ago. For this she had had a number of teeth removed with considerable relief, and she only came to the hospital for the nasal obstruction. The left nostril was entirely occluded with what appeared to be a normal hypertrophy of the inferior turbinal. It did not in the least diminish under cocaine. The left posterior choana was normal. There was no discharge. Transillumination showed the antra to be the same on both sides. The left antrum was drilled from the alveolar border, but no pus escaped, and no fluid could be syringed through into the nose. With the probe the inside of the cavity appeared to have a soft thickened lining. There was still some tenderness above the canine fossa, and he suspected that the trouble might prove to be entirely periostitis.

Mr. de Santi said it was impossible to say very much about the diagnosis until the turbinal had been treated; he thought there was suppuration, and that the antrum was probably involved.

Dr. Dundas Grant said it looked more as if there were a cyst in the antrum. There was a certain amount of distension; no pus or fluid had been washed out on puncturing. A cyst seemed the only growth that would distend the antrum, and at the same time give no dullness on transillumination.



Mr. Spencer thought there was hyperostosis of the maxillary bone; similar cases had been shown to the society. He should relieve the nasal obstruction by removing the inferior turbinate body. He had seen more marked cases, which were due to thickening of a large area of the side of the nose, and in which there was marked symmetrical opacity upon transillumination.

Dr. StClair Thomson said it was his intention to remove the anterior end of the inferior turbinal body; and he had simply exhibited the case in order that members might see its present condition.

#### **Case of a Growth in the Larynx in a Male æt. Twenty-Five.**

Shown by Dr. FitzGerald Powell. In October, 1899, the patient first noticed a slight hoarseness, which gradually increased until January 16, 1900, when he came under my notice.

He attributes his loss of voice to the excessive use of alcohol, and also to the strain of public speaking.

Nine years ago he had pneumonia, and since then says he has been subject to colds which fly to his chest. On one occasion he strained his voice so much by speaking that he brought up some sputum streaked with blood. There is no history of syphilis. There is no evidence of disease in his lungs, and he is increasing in weight.

On examination the whole of the larynx, especially the ventricular bands and true vocal cords, are seen to be red and swollen, and there is some paresis in adduction.

At the anterior portion of the right cord a growth is observed apparently growing by a broad base from the substance of the cord, and partly free anteriorly and posteriorly. The inflammatory condition has recently improved, but the growth has increased somewhat in size.

Sir Felix Semon stated that he did not think it was possible to say at present for certain what the growth was from mere laryngoscopic examination. It much reminded him of one of his own cases, in which he was for a long time doubtful as to the nature of the disease. In that case at first a small reddish growth was observed on the free margin and under the middle of the left vocal cord. It passed very gradually over into the cord itself. In the course of the next twelve months it gradually spread, infiltrated the left cord more and more, and finally an almost uniform and semi-transparent thickening of the whole vocal cord occurred, and the movements became somewhat sluggish. Owing to the uni-

formity of the swelling, it was impossible to remove a piece for microscopic examination. Seeing the patient's age (fifty-five), the unusual appearance of the growth, and the sluggish movements of the cord, there was a strong suspicion of malignancy, and this opinion having been confirmed by Mr. Butlin, thyrotomy was performed, and the whole of the cord was removed. On microscopic examination, however, by Mr. Shattock, it remained doubtful as to whether the growth was of the nature of fibro-sarcoma, or of what he called "continuous" fibroma (*Fibroma molluscum*). The case had been fully described in the speaker's paper on "Malignant Disease of the Larynx," in the *Lancet*, 1894. It was Case 12 of his tables, and a full report of Mr. Shattock's microscopic examination was given in it. The gradual blending of the growth with the cord in Dr. Powell's case and its semi-transparent appearance much reminded him of that case. Of course the comparative youth of the patient seemed to militate against the idea of malignancy, but as he had himself seen undoubted malignant disease of the larynx in a patient æt. twenty-seven, the present patient's youth was no absolute proof to the contrary. If the case were his own, he certainly should at once remove by intra-laryngeal operation a good-sized piece of the growth near the anterior commissure, where it most projected, and should make his further proceedings depend upon the result of microscopic examination of the fragment removed.

**Pseudo-Membranous Adhesion in the Anterior Commissure and Symmetrical Thickening Below the Anterior Part of the Vocal Cords (Congenital?) in a Young Man.**

Shown by Sir Felix Semon. The case is shown as representing the lowest degree of a tendency to formation of congenital webs between and below the vocal cords. The patient is a young gentleman æt. twenty-seven, who since birth had suffered from extreme weakness of voice, and who was sent to the observer by Dr. Clayton, of Hampstead, on the 13th January, 1900, on account of a red, granular, elongated, mobile growth, inserted on the free edge and on the lower surface of the left vocal cord, about the border of the anterior and the middle third. This growth practically covered the anterior part of the glottis. It was removed with forceps, and turned out to be a soft fibroma. After its removal, however, the voice remained weak, and it was then seen that the vocal cords were united somewhat extensively at the anterior commissure by an intermediate, reddish, granulating mass, whilst from the anterior

commissure, two symmetrical thickenings extended almost the entire length of the vocal cords and below them, simulating, as it were, a reduplication of the vocal cords themselves. After removal of a small part of the reddish mass in the anterior commissure, which was found to be much softer than in previous cases seen by the observer of congenital adhesions in the anterior commissure and between the vocal cords, the voice became perfectly normal.

The President said he understood the condition was more pronounced prior to commencing treatment.

Sir Felix Semon stated in reply to this question that the mass previous to operation was not much bigger than at the present time. The single pieces removed were so small that it was hardly worth submitting them to microscopic examination. He wished to add to his description of the case that, according to the explanation given by Roth, at the commencement of fetal development the two halves of the larynx were glued together by epithelial masses, which gradually cleared up from behind. In normal cases the whole epithelial mass disappeared, whilst in cases of arrested development an adhesion remained, more or less developed, in the anterior part of the glottis, and thickest in the neighborhood of, and below, the anterior commissure. His patient had incidentally mentioned to him that his father also had always had an extremely weak voice, and being mindful of Professor Seifert's series of cases, in which the developmental arrest in question had been observed in four members of one and the same family, he had obtained permission to examine his patient's father, but there was no evidence whatever of a similar arrested development.

#### **Case of Growth from the Arytenoid Region in a Male æt. Fifty-Six.**

Shown by Mr. R. Lake. The patient when he first came under my care six months ago complained chiefly of dysphagia and otalgia with excessive secretion of ropy mucus. There was, and there has been, no loss of voice, nor at any time any other symptom pointing to the larynx as being the seat of the disease. The patient gave a somewhat unintelligible history of the pain coming on suddenly after a meal.

The ear had been considered the seat of the trouble, and he had been using sedative drops for some six months.

The objective symptoms were as follows: The pharynx was red and swollen and had the appearance of a gouty pharyngitis. The ear was devoid of any active lesion. The larynx was difficult to examine, but a whitish translucent growth was noticed under the tip of the left arytenoid cartilage on its anterior surface.



The patient was put under treatment to reduce the irritability of the pharynx; this was accomplished and the removal of the growth suggested. At this the patient demurred and disappeared for some time; he, however, returned, and I removed the growth, or rather the major part of it, with the forceps (shown at a previous meeting of this society). There is still a small piece left on the outer side, which will also be removed. The subjective symptoms have almost disappeared.

The section under the microscope is one which I think will interest the members of this society. The mucous membrane over the growth is much thinned, but does not seem to have any connection with it, and there is an absence of signs of activity in the surrounding tissues except just below the epithelium. The growth consists of large epithelioid cells, and the vessels run chiefly in the trabeculæ.

**Case of Pharyngeal Growth Involving the Larynx in a Man æt. Fifty-Nine.**

Shown by Dr. Furniss Potter. T. R., æt. fifty-nine, came to the London Throat Hospital three weeks ago, complaining of difficulty in swallowing, which he had first noticed six months ago. He stated that three years previously he had had part of the lower jaw removed at the Radcliffe Infirmary, Oxford. On examination the left ascending ramus of the lower jaw had obviously been removed. There was a hard sloughy swelling in the left faucial and tonsillar region, including the left half of the palate, which extended down the side of the pharynx, involving and almost completely obscuring the larynx. There was a hard swelling immediately below and in front of the mastoid process, and also what felt like a gland just above the great cornu of the hyoid on the left side. The patient had always been a healthy man, but had lost flesh lately; no history of syphilis.

He had been taking potassium iodide for three weeks, and asserted that he could swallow more easily and "had more room in his throat." The glandular enlargement had subsided to a certain extent.

Although Dr. Potter had little doubt in his own mind as to the diagnosis—malignant disease,—he had ventured to show the case, thinking it would be of interest, though perhaps more from a general surgical than a purely laryngological point of view.

The President said, with regard to the treatment of such cases, he remembered a doubtful one, which was treated with fifteen-grain doses of iodide of potassium without any benefit; on increasing the dose to twenty grains the improvement was most marked.

Dr. Furniss Potter, in reply to the President, said that the iodide had been given in ten-grain doses, increased to fifteen during the last week; a larger dose had not yet been given. In reference to the present condition, the patient had more room in his throat, and the glandular enlargement had subsided to a certain extent.

### **Case of Advanced Atrophic Rhinitis in a Young Girl.**

Shown by Mr. L. A. Lawrence. E. P., a girl æt. fourteen, was shown for the purpose of adding one more to the number of young people having advanced atrophic rhinitis. In this case the patient to her knowledge had suffered for three years.

The usual crusts were present along the whole of the upper respiratory tract. In addition, the uvula was markedly bi-lobed.

Dr. StClair Thomson mentioned that, at the last meeting of the Society, Mr. Spencer had said that the bacteriology of the subject had not been sufficiently investigated. Curiously enough, that very afternoon Dr. Thomson had been reading a long and interesting paper on the subject, narrating the experiments of an Italian investigator on thirty-two cases.\* As a full translation might not appear, he thought a brief epitome might be interesting. A Dr. de Simoni had found that in the secretion of ozena pathogenic germs were constantly met with—the diplococcus of Fränkel, streptococci, and pyogenic staphylococci. Non-pathogenic germs, such as the capsule bacillus and the pseudo-diphtheria bacillus, were also met with. None of these have any etiological importance. They may be met with in nasal cavities with no trace of ozena. Pure cultures were made and introduced into the nostrils of healthy individuals without reproducing the morbid process. Even when inoculated on to the mucous membranes of healthy individuals in association, as they are met with in the ozenatous mucosa, they are incapable of producing the disease. The same can be said of non-pathogenic germs, to which the origin of ozena had been wrongly attributed. Dr. Thomson added that De Simoni's experiments appear to have been carried out very carefully, and therefore tended to exclude the idea of the infective character of ozena.

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\* *Il Policlinico*, 1899, vol. vi.

(To be continued.)

MEETING OF THE CHICAGO LARYNGOLOGICAL AND  
CLIMATOLOGICAL SOCIETY.

*Held April 19, 1900.*

REPORTED BY EDWIN PYNCHON, M.D.

The President, Dr. E. Fletcher Ingals, in the Chair.

**Bilateral Osteoma of the Nose**, a case reported by Dr. Otto J. Stein, with presentation of patient, such cases being comparatively rare. (His paper will appear in full in a later issue of THE LARYNGOSCOPE).

Dr. A. M. Corwin stated that he had treated a very similar case over a year ago, which he had not previously reported. By operation he had removed the growth, there being but little hemorrhage, though its return followed within a few weeks, after which the patient drifted from sight.

Dr. E. F. Ingals said that he had operated in two cases, one being unilateral, while the other had begun to extend to the opposite nostril. In both cases the hemorrhage was free.

Dr. Stein in closing the discussion thought that the rhinological method of operating through the nose was not advisable, and that the external method of the general surgeon was the only method to be advised.

Dr. J. Holinger read a paper entitled:

**Ozena, Dry Pharyngitis and Pachydermia of the Larynx in the Light of Recent Researches as to their Etiology**, in which, in addition to his own observations, he gave the opinion of several European authorities. Ozena is not met with as frequently in Chicago as in many other locations. It is often observed in Austria, and from a standpoint of nationality it is very common with the Chinese. Breadth of face is a physical condition which seems to favor the development of ozena. In the examination of a large number of cases only two and five-tenths per cent could be classed as among those with narrow faces. Considerable attention was given to the importance of bacteriological examinations. As the atrophic condition progresses the epithelium of the mucous membrane "hornifies" like epidermus.



Dr. Pynchon: While the essayist evidently regards ozena as being a disease, in my opinion and experience it is only a symptom or complication which indicates a lack of proper attention and cleanliness. In the treatment of atrophic rhinitis in the adult, when there is neither a specific nor malignant history, and when not complicated by sinus disease, I have met with no difficulty in soon correcting an ozena, if present, and in so educating the patient in self-care that all tendency to ozenatous formations will be easily held in check. The method I employ consists in the hourly use of a modified Dobell solution\*, one drachm being sniffed in the nose from the palm of the hand, and, additionally, the use of a tepid douche night and morning, being a weak alkaline or carbolized solution. In this way I have in a short time had the ozena well in check so the indicated after-treatment could be carried out.

Ozena, to my mind, is easily explainable on a common-sense basis, and does not require reference to bacteriology or microscopy. The nasal secretion, which is normally watery in character so as to be evaporated and thus humidify the inspired air, has in the atrophied nostril become changed in character and is too dense to be evaporated, hence, being an animal secretion, as is milk, it will, when exposed to the air, in time likewise decompose, and thus arises the requirement for great care in cleanliness. Pharyngitis sicca quite naturally follows atrophic rhinitis and later on the larynx may suffer. I might add that in these cases, while the nasal passage is too large near the floor, I generally find a condition of stoppage higher up which is due to middle turbinal hypertrophy and pressure thereof against the septum so as to occlude the attic of the nostril. In such cases I have invariably found that a correction of the hypertrophic condition by surgical means, in order to allow the inspired air to penetrate to the attic of the nostril, results in an improvement of the atrophy and a diminution in the annoyance therefrom. In connection with this line of treatment I find that stimulation of the atrophied inferior turbinal by vibratory massage also greatly assists in improving the condition.

Dr. George E. Shambaugh reported a case of

**Primary Nasal Diphtheria** in a girl twelve years of age which ran an uneventful course without febrile manifestation through four weeks' time. An early microscopic examination was made, though but few bacilli were found. At a later examination they were more

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\* *Annals of Ophthal. and Otol.*, October, 1896.

numerous. In this disease after complete shedding of the membrane the bacilli may remain active for some time, and when of the virulent variety may thus cause infection. All cases of fibrinous rhinitis have by some writers been considered as being of diphtheritic origin. Emphasis was given to the necessity of making an early microscopic examination in all doubtful cases.

Dr. Ohls cited Price-Brown's experience in having had an extensive formation of fibrinous membrane after the cauterization of a turbinal.

Dr. Stein: In pseudo-membranous rhinitis the Klebs bacillus is often absent upon the first examination, though staphylococci and streptococci may be present, but, at a later examination, the true diphtheritic bacilli will be found.

Dr. Ingals expressed doubt as to the propriety of the diagnosis when so large a per cent of the usual symptoms are absent. He called attention to the frequency with which diphtheria is carried by domestic animals.

Dr. J. H. Coulter read a paper entitled:

**The Etiology of the Deflected Nasal Septum.** While not formerly appreciated it is now recognized that a deformed septum is of great pathologic importance. More or less defect of the septum is found in at least seventy-five per cent of the cases presenting themselves for treatment. A deflection or other deformity of the septum may exist for many years without causing disturbance until some new exciting cause appears. While traumatism is the most commonly recognized cause, it is certainly strange that the deflection is often not recognized until several years after the injury. It would seem more reasonable to assume that the deflection is caused by suction in the occluded nostril in combination with increased air pressure upon the opposite side.

Dr. Freer regards deflection as being often due to some unrecognized source of irritation which causes the cartilaginous septum to grow too rapidly.

Dr. Pyncheon: I quite agree with Dr. Stein as to the etiology of the deflected septum. I think tonsillar or adenoid enlargement in early life has very much to do with a case of deflected septum coming on about the age of puberty. I think that prophylaxis against deflection of the septum would be secured by promptly removing all obstructions so that nasal respiration is free. As regards the high-arched palate being a factor, I will say that Dr. E. S. Talbot, of Chicago, who has made many studies of this condition,

claims that there is no such thing as a high-arched palate, but that the upper teeth, because of the mouth-breathing, do not meet with the resistance of the teeth of the lower jaw and consequently they grow downward more than they otherwise would, thus causing the appearance of a high-arched palate, although the roof is really at the normal height.

Dr. Ingals presented notes of a case of a

**Foreign Body in the Esophagus** in a boy two years of age, as he believed the rhinologist should know more of general medicine. The boy was said to have swallowed a cent, though he had been able to drink and also at times to eat food. By use of the X-ray the cent was easily located and under anesthesia was removed with an esophageal forceps.

Dr. Ohls asked why it would not be practical to operate by the use of the X-ray in such a case?

Dr. Pyncheon suggested, if this were attempted, that for obvious reasons it would be best for an assistant to watch and direct the operator by word of mouth.

Dr. Shambaugh stated that one case had been reported wherein this exact method had been followed.

It being the annual meeting the following officers were elected for the ensuing year:

Dr. T. Melville Hardie, President, and Dr. John E. Rhodes, Secretary and Treasurer.

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## ABSTRACTS AND BIBLIOGRAPHY.

Arranged and Edited by  
**FAYETTE C. EWING, M.D., St. Louis,**

with the collaboration of the

**EDITORIAL STAFF.**

It is our purpose to furnish in this Department a complete and reliable review of the world's current literature of Rhinology, Laryngology and Otology.

Authors noting an omission of their papers will confer a favor by informing the Editor.

### I. NOSE.

**Spontaneous Escape of Cerebral Fluid from the Nose**—LUDWIG HEKTOEN—*Indiana Med. Journ.*, February, 1900.

Several years ago Fenger removed with a snare from the nose what appeared to be a polypoid growth, but which on microscopical examination proved to be a portion of a meningocele. Cerebro-spinal fluid followed the removal and continued to drip from the nose. The surgeon carefully plugged the nose with sterile material, made a trap-door in the face and sutured the edges of the dura. The patient made a prompt and permanent recovery.

Recently StClair Thomson has established the entity of an affection characterized by the continuous and spontaneous escape of cerebro-spinal fluid from the nose. Literature records twelve such cases, most of which were described as "dropping of watery fluid from the nose." The diagnosis of cerebro-spinal rhinorrhea is made by finding the constant and long-continued escape of a clear, watery fluid, which is free from taste, smell, sediment, albumen or mucin, except in slightest traces, and which reduces Fehling's. The route of escape is probably along the perineural sheaths of the olfactory nerves. Intra-cranial pressure may be a causative factor. It is of greatest importance that this condition be promptly recognized to prevent infection of the meninges through the nose. Medical or surgical treatment of this condition offers but little.

DETWILER.

**Researches on Ozena**—DE SIMONI—*Policlinico*, Vol. VI, A. 6, 1899.

This study concerns the germs found in the secretion of ozena, with reference to their being constant or inconstant, more or less pathogenic, and the importance which should be attributed to them in the explanation of the clinical appearances. The cases amount to thirty-two.

By means of cultures made in the usual method, injections into animals and inoculations attempted on man in numerous experiments, the author arrived at the following conclusions:

1. In the secretion of ozena pathogenic germs are constantly met with, such as may even be encountered in normal nasal mucus. These germs are the diplococcus of Fraenkel, the streptococci and pyogenic staphylococci.

2. The non-pathogenic germs that are constantly met with in the secretion of ozena and which also may be met with in normal mucus are the capsule bacillus and the pseudo-diphtheriæ bacillus.

3. The pathogenic germs that are constantly met with in ozena have no etiological importance, because when inoculated in culture into the nasal mucosa of healthy individuals they are not capable of reproducing ozena. The same can be said of non-pathogenic germs to which the origin of ozena has been wrongly attributed.

4. Just as the pure cultures of the various micro-organisms which are found in ozena, pathogenic and non-pathogenic, have been demonstrated to be incapable of reproducing the morbid process when inoculated into the mucous membranes of healthy individuals, so they are not capable of reproducing this morbid process even if inoculated in association as they are met with in the ozenatous mucosa.

5. Having thus excluded the infective character of ozena, we must admit that this process originates from an anatomic lesion of the nasal mucosa, which permits the multiplication of those pathogenic and non-pathogenic germs which may even be found in normal nasal mucus and which in ozena concur in damaging the functional activity of the epithelium.

FERRERI. (Translated by StClair Thomson.)

## II. MOUTH AND NASO-PHARYNX.

### On Tuberculosis of the Tongue—TANTURRI—*Archivii Italiani di Laringologia*, Gennaio, 1900.

Tuberculosis of the tongue is a rare disease. In the clinique of Professor Massei in ten years amongst 1074 patients only two cases have been observed. It may be primary or secondary. The former is extremely rare and is more susceptible of cure; the latter may follow previous infection in the larynx, nasal fossæ, etc. The ulceration may be superficial or deep; differential diagnosis between tuberculosis and epithelioma is difficult. The only available aid is that which is obtained from the histological examination of a piece removed. The most salient clinical character of epithelioma is its localization to the margin of the tongue, while tuberculosis and syphilis show a preference for the center and base. Besides, epithelioma is found on a more deeply indurated base, while induration in tuberculosis is always more superficial. The author gives two clinical histories, and with reference to treatment suggests applications of menthol (from twenty to eighty per cent), iodoform in ether (one in three), and methyl violet (one-half per cent). Lactic acid and insufflations of orthoform are especially required when the lesion is diffused and ulcerated. In addition to general medical treatment there should be a surgical one with cauteries and curettes.

FERRERI. (Translated by StClair Thomson.)

**The Effect of Certain Occupations on the Pharynx**—S. OPPENHEIM—*Med. Record*, December 16, 1899.

A study of fifty cases, twenty-nine males and twenty-one females, aged from thirteen to seventy. Of the occupations there were weavers, 29; tinsmith, 1; hat manufacturers, 11; tailor, 1; baker, 1; dyers, 3; fireman, 1; carpenter, 1; dressmakers, 11; laundress, 1. These make two classifications; occupations characterized by temperature elevation, and the presence of excess of dust and fibres in atmosphere, 39; occupations characterized by excess of injurious chemical agents (and fumes) in the atmosphere, 11. From this small number of cases the author does not pretend to draw specific conclusions, but rather suggests the following as indicating broader lines than the number of cases:

1. The pharyngeal mucosa of the mill hand under twenty years of age is more susceptible to unfavorable influences than is that of the individual over this age.
2. The inhalation of dust, fibres and chemical agents are the factors of most importance.
3. The majority of industrial workers are affected with pharyngeal disorders, dependent to a certain extent upon their occupation.
4. In those already affected with pharyngitis before assuming these occupations, the morbid changes are augmented by the work.
5. The primary pharyngeal changes are those of acute congestion and inflammation. Chronic changes are the ultimate result.
6. The pharyngitis produced in part or whole by the occupation does not differ in any respect from the ordinary forms.
7. Provided the nasal chambers be in approximately normal condition, pharyngeal affections are much less liable to occur than otherwise.
8. Hygienic measures applied to the environment of the worker are of vast benefit as regards the improvement of his general condition and therefore of the upper respiratory tract.
9. That local care, as has been outlined, will be productive of much good.

F. C. E.

**On the Presence of the Bacilli of Frisch in a Case of Hypertrophy of the Pharyngeal Tonsils**—DE SIMONI—*Riforma Medica*, N. 251-252, Anno XV.

While examining the pathology of hypertrophied tonsils the author found the bacillus of Frisch in the center of the tissue. The identity of this discovery with the form that one is used to observe in rhinoscleroma is confirmed by the bacteriological characters which the author reports, and the morphological and culture characters suggest the derivation of the bacilli of Frisch from the pneumobacillus of Friedlander. This naturally further weakens the view that the bacillus of Frisch is specific for rhinoscleroma.

FERRERI.

(Translated by StClair Thomson.)



**The Relation Between Nocturnal Enuresis and Adenoid Vegetations**—GRONBECK—*Weekly Periodical for Physicians*, 1898, page 1153.

The author first reported his observations upon this subject in 1895. The work is based upon 235 cases of adenoid vegetations. Of these 35, or 15%, had enuresis nocturna. Four stopped spontaneously. Of the remaining 31 results were obtained in 23 only, and after an interval of one and a half years succeeding the operation. Seventeen were completely cured, one considerably improved—the enuresis returning when he caught cold—and in the other two there was no improvement.

GOTTLIEB KLÄR.

**III. ACCESSORY SINUSES.**

**Suppurative Ethmoiditis and its Treatment**—FRANK S. MILBURY—*New York Med. Journ.*, January 20, 1900.

From the experience of this observer, necrosis, following a suppurative inflammation of the ethmoid cells, is not as common as some authorities wish us to believe. He has found this complication rather rare, except when due to syphilis, phosphorus, mercury, etc.

His treatment consists in cleansing the nasal cavities with some antiseptic solution and removing the obstruction to force drainage. By far the largest number of these cases demand surgical treatment. The wholesale removal of the turbinals is decried. The history of three cases are detailed, in which annoying symptoms were benefited by surgical measures.

In thirty-nine cases seen by the author the maxillary sinus was implicated in sixteen, eight were carious; there was suppuration of the whole cellular structure in eleven, and in twenty-eight there was anterior involvement.

LEDERMAN.

**IV. LARYNX AND TRACHEA.**

**Tubercular Laryngitis**—SCHMIEGELOW—*Hospitalstidende*, No. 44, 1899.

The author mentions an illustration showing the difficulty of diagnosing tubercular throat disease. A man of sixty, pale, spare, but strongly built, complained of hoarseness and difficulty in swallowing. Both stethoscope and laryngoscope bespoke tubercular disease. The laryngeal mucous membrane was diffused, red, with cupola infiltration of both arytenoid cartilages. The left false cord was the seat of deep crate-like ulceration which was surmounted by a swelling as large as a cherry. The left side of the larynx immovable. To further corroborate the diagnosis a piece of the mass was excised, but the microscope revealed no tubercles. Thyrotomy was performed, and the diseased tissue removed. Again a microscopical examination was made, and this as well as a later examination showed the disease to be tuberculous. The patient died seven weeks after the operation of acute miliary tuberculosis. In his discussion of treatment the author is favorable to lactic acid pencillings, excision, and galvano-cauterization with strengthening of the system.

GOTTLIEB KLÄR.

**The Complications of Sarcoma of the Skin**—F. MASSEI—*Archivii Italiani di Laringologia*, Ottobre, 1899.

The author insists upon the pathological importance of Kaposi's type of sarcomata of the skin and their unascertained pathology, and he gives a large contribution to the complications of this disease, treating particularly of the complications of the larynx.

The connection between multiple pigmentary sarcomata of the skin and laryngeal localization is clinically and histologically demonstrated in five observations collected by the author.

In the first case there existed infiltration of the mucosa in the first portion of the trachea, with raised nodules of a bright red color.

In a second case the infiltration was in the laryngeal cavity with small scattered nodules on the true and false vocal cords and the epiglottis.

In both the cases the cutaneous lesion had existed for two years; it was scattered over the upper and lower limbs and was going on spreading.

The third observation concerned an individual who was considered to be syphilitic and who was using injections of corrosive sublimate. On the inferior third of both legs there were scattered nodules more or less raised, some irregular, others regular and well pigmented. The laryngoscopic examination revealed an excrescence as large as a nut round, red, and superficially villous, towards the posterior attachment of the left, in the form of a true papilloma, and this was the cause of an aphonic voice.

The neoplasm was removed and examined microscopically by Dr. Martuscelli who observed the following particulars:

1. A covering of pavement stratified epithelium on the outside.
2. A connective stroma, soft with hyperplasia in parts, recognizable by numerous fibro-cellular elements.
3. Various capillaries with normal walls, surrounded by leucocytes, in the neighborhood of the pedicle.

From a nodule removed from the leg the characters of sarcoma were more easily demonstrated, since this nodule was of more ancient date than the laryngeal growth.

In a fourth observation the laryngoscope showed a large, round, red, unequal tumor, with varicose vessels, as big as a nut, implanted on the free borders of the epiglottis. The patient had on the back of his hands and on his forearms red cutaneous zones, brown spots, and some nodules. The laryngeal growth was removed and microscopical examination confirmed the association with the multiple sarcomata, based chiefly on the abundance of fusiform cells found both in the nodule removed from the epiglottis and in a nodule from the palm of the right hand. The plates which accompany the original article demonstrate this.

The fifth observation concerns an individual affected with hoarseness and dyspnea. Laryngoscopical examination showed a tumor on the right half of the larynx on the aryepiglottic field, large as a mulberry, red and movable. On the left hand some nodules were

met with. Having been removed with difficulty at several sittings the neoplasm was found to be identical in histological structure with that of a small nodule from the skin.

The author therefore comes to the following conclusions:

1. Between multiple hemorrhagic sarcomata of the skin and endo-laryngeal sarcomata there exists undoubtedly an indisputable clinical connection.

2. It is to be expected that this connection is more frequent than might be expected from these observations.

3. The skin should always be examined in cases of laryngeal tumor, and the larynx should be systematically examined in cases of sarcomata.

4. The endo-laryngeal complications may assume two types: The infiltrating form, and that of real tumors.

5. These complications may be verified in the course of the cutaneous disorder even early.

6. The laryngeal neoplasms show a preference for the posterior attachment of the cords, the arytenoids, the free margin of the epiglottis, and the subglottic region.

7. They offer the serious difficulties of extreme dysphagia and laryngeal stenosis.

8. The progress may be favorable; removal should always be done *per vias naturales*, especially when the endo-laryngeal complication is early.

9. Removal should be done as early as possible.

10. These laryngeal symptoms show that cutaneous idiopathic sarcomata represent more than a local process; it is a general disease, probably infective and comparable up to a certain point to leprosy and lupus.

11. The title of *Sacroides*, proposed by Kaposi, should be preserved, because it denotes with precision the mitigated form.

12. It is probable that the mitigation depends upon the localization in the skin and mucosa, as occurs in lupus (tuberculosis of the skin).

FERRERI. (Translated by St. Clair Thomson.)

## V. EAR.

**Some Remarks on Perichondritis Serosa Auricula**—J. MOLLER—*Hospitalstidende*, 1899, No. 81, page 199.

An historical survey of all published cases, twenty-seven. The author has observed one case in the Policlinic, Copenhagen. Laborer, aged thirty, whose wife in jest pulled him by the left ear. Next day he developed a small lump in the fossa scaphoidea; in eight days it was as large as a walnut, was soft, fluctuating and sore. When incised there exuded a clear, yellow serous fluid. Compression bandages were put on. Within three days the swelling was reproduced. Two days later the cavity granulated—there was no deformity. In the succeeding number of the *Hospitalstidende*, the author reports two new cases; one in a man twenty-nine, which arose spontaneously, a serous perichondritis; the other, in a man forty-seven, developed after a mild trauma.

GOTTLIEB KLÆR.



**Remarks on the Treatment of Acute Middle Ear Suppuration**

—LARSEN—*Hospitalstidende*, 1898, page 1273.

The investigations were in the Garrison Infirmary, Copenhagen. Eustachian inflation, and insufflation of powders are not used at all. Rinsing of the meatus is not done in the early stages, but tampons of sterilized wadding are employed. These in small wads are carefully packed in filtering paper, and the whole sterilized together in a larger piece of filtering paper.

Of 65 cases 4 were reported by the clinic uncured. Of the 61 remaining, 29 were treated without confinement to bed, and 32 with confinement to bed. The duration respectively was thirty-two and twenty-nine days, therefore little was gained by keeping the patient in bed. In the books these cases are set down as running from four to six weeks, but here it was on an average of about thirty days, the shorter duration being likely due to keeping the patient indoors as long as the suppuration lasted. Half of these patients were treated with instillations of a two per cent solution cocaine in one-half per cent chlor. corrosive hydrarg., five drops three times daily. The other half were treated dry by, *i. e.*, shutting up the auditory passage with sterile wadding tampons.

The duration averaged six days less for those treated without the instillation. The dry treatment has the advantage, and is to be recommended as preventing complications. GOTTLIEB KLÉR.

**Ninety-six Operative Cases of Chronic Middle-Ear Suppuration—**

SCHMIEGELOW—*Northern Med. Archives*, No. 17, 1898.

The cases are all from private practice, and represent various degrees of the affection. The duration of the disease varied from a few months to fifty years. Special interest attaches to the indications that influenced the author to operate. In two cases the suppuration was complicated with, and dependent upon, a malignant new formation, one sarcoma and one carcinoma.

In thirty-five cases there appeared during the course of the malady acute exacerbations. In sixteen cases the trouble was treated generally for years, but without result. In twenty-six cases the patients were new arrivals, and had not time to subject themselves to conservative treatment. In sixteen cases the duration was ancient, upwards of thirty years, and the destructive process had spread very much. In these there was headache, heaviness in the head, dizziness, sensation of qualm and the victims were unable to work.

In twenty cases the mastoid process only was chiseled, with fifty-five per cent cured and forty-five per cent the suppuration continued.

In thirteen cases chiseling of the cupola only was undertaken by the removal of pars epitympanica. In one of these the malleus was removed, and in twelve both malleus and incus were taken away. In three cases the antrum was opened, and a modified Stacke performed. In seven cases cure succeeded, which continued from one to five years after leaving the clinic. In three cases there was considerable improvement, in one case and in two cases the patient

discontinued the after-treatment. Cure was attained in forty-four cases, which continued from one to five years; in seven cases the after-treatment was interrupted; in nine cases considerable improvement occurred, three became worse in consequence of acute miliary tuberculosis, meningitis suppurative and meningitis tubercular. The cavernous sinus was opened once. In the author's three first cases there occurred traumatic facial paralysis twice, and later it happened a like number of times, but it passed away completely.

In seven patients the middle-ear suppuration was accompanied by endocranial complications, in five patients epidural abscess; in four of these it lay in the fossa cranii posterior, and in only one was it in the fossa cranii media. In two patients there was abscess of the cerebellum. The treatise concludes with a short schematic survey of the cases.

GOTTLIEB KLER.

**The Effect of Atmospheric Changes on the Hearing in Chronic Catarrhal Otitis Media**—S. OPPENHEIM—*N. Y. Med. Journ.*, October 21, 1899.

With a view of ascertaining the detrimental action of barometric and thermal changes upon the already impaired hearing in catarrhal deafness, fifty consecutive cases of chronic sclerosis of the middle ear were studied, through a considerable period of time, to determine the variations in hearing under different atmospheric conditions. The author arrives at these

CONCLUSIONS.

1. The hearing in at least seventy per cent of cases with chronic catarrhal deafness becomes worse under adverse weather conditions.
2. The degree of impairment of audition, as influenced by atmospheric changes, is determined to a great extent by the location and character of the pathological process in the tympanic cavity.
3. The morbid alterations most susceptible to barometric variations are those of hyperplasia.
4. In purely atrophic changes in the middle ear weather variations have little or no effect upon the auditory function.
5. Atmospheric influences also impair the hearing by unfavorably affecting catarrhal processes of the upper respiratory tract and Eustachian tube.
6. All things being equal, the impaired audition in chronic catarrhal otitis is diminished more (under unfavorable weather influences) in those whose general health is below par than in those otherwise healthy.

F. C. E.

**Functional Investigations of Locomotive Hearing and Signal Hearing**—S. STEIN—*Northern Med. Archives*, 1899.

In the introduction he mentions the authors who have reported upon this subject. He investigated forty-four stokers and twenty engine drivers, dividing them into three groups, according to length of service.

Group one, service one to nine years, thirty-nine stokers.

Group two, service ten to nineteen years, four stokers, twenty engine drivers.

Group three, service twenty to thirty-eight years, eighteen engine drivers.

In three cases there was paracusis Willisii, but in only one of these was it severe; subjective sounds in five cases, and in four serious ear troubles were found to have arisen during the service, and in eight there was milder trouble. The hearing tests were performed with great care. Bezold's continuous series of tones were used, and Weber's, Schwabach's, Gelle's and Rinne's tests employed.

As an index for difficulty in hearing, the author adopts 850 cm. for the whispering voice the numeral 78 being used. This high limit was established on account of the responsibility of the occupation of this class.

In the three groups there was found respectively thirteen (I), nine (II) and eleven (III) deafness, *i. e.*, thirty-three per cent, thirty-seven per cent, sixty per cent respectively; the degree of deafness was most pronounced in groups two and three.

Of the 157 investigated ears 96.91% indicated pathologic lesions, nineteen (11.73%) evidenced impairment of sound conduction; seventy-nine (48.83%) impairment of sound perception; in the rest of the cases the proportions were more doubtful. The difficulty of hearing increased with time of service. In searching out the cause of this malady the author made several journeys by train, standing on the engine, and he describes his experiences minutely. He also tried the sound signals, mouth whistle, steam whistle and detonation with explosion capsules. The mouth-whistle signals were often heard with difficulty. For this purpose he used a metal whistle with continuous blast, in which the tone length is constant, but this was unsuccessful. The other signals were heard very well.

GOTTLIEB KLIER.

## VI. DIPHTHERIA, THYROID GLAND, ESOPHAGUS, ETC.

**A Case of Rupture of the Esophagus caused by Vomiting, together with a Table of the Cases hitherto recorded: by Dr. Bowles, Consulting Physician to the Victoria Hospital, Folkestone, and Mr. G. R. Turner, Surgeon to St. George's Hospital—Paper read at the Meeting of the Royal Medical and Chirurgical Society, March 27, 1900.**

Mrs. B., aged sixty-two, after taking overnight a pill of aloes and rhubarb which freely purged her, was sick on taking some milk. She vomited four or five times, and still feeling ill took a tumblerful of salt and water "to clear the stomach." The vomiting caused by this was followed by collapse of an alarming nature and epigastric pain. She was given chlorodyne by her maid, and complained of agonizing pain after swallowing. When first seen the usual symptoms of profound collapse were present; her respiration was gasp-



ing, and she was moaning with pain, which she referred to the epigastrium and dorsal spine, "not on either side," "as if I was breaking in two." She was sure it had "no connection with the bowels."

There was retraction and some tenderness of the upper abdomen, with rigidity of the rectus. All vomiting had ceased since the sudden onset of the pain and collapse. Stimulant and laudanum, fifteen minims given by the mouth, immediately aggravated her pain. It was thought that some perforation of the stomach had possibly occurred, but the diagnosis was by no means clear. She rallied from the collapse, and under the influence of hypodermic injection of morphia her condition somewhat improved, and it became possible to examine her more thoroughly. Her gasping moans, extreme distress and rapid respiration, made auscultation difficult; but as far as could be ascertained, the cardiac sounds were absent and the chest hyper-resonant; there was no dullness. Her symptoms now, some six hours after their onset, were evidently more thoracic than abdominal, and it was decided there was no indication for laparotomy. She was quieted by morphia; indeed, at one time it seemed as if she was too much under the influence of the drug, so that she had to be roused from a comatose condition by coffee, salicylate of caffeine and electricity. Her distress and pain returned as she threw off the effects of the opiates, and emphysema of the neck, soon extending to the face, appeared some five hours before her death, which occurred twenty-two and a half hours from the commencement of the attack.

The post-mortem examination showed emphysema of chest and neck, chiefly on the left side, and left pneumothorax; about six ounces of brownish fluid in left pleural cavity, a small quantity in the right cavity. The posterior mediastinum was infiltrated with similar fluid. The lungs were healthy—the left one collapsed; no tubercle, no adhesions, no rupture of visceral pleura; one and a half inches above diaphragm there was a longitudinal rupture of the esophagus five-eighths of an inch in length, edges thin; no peeling of mucous membrane; no other disease of any kind.

Some remarks are made on the diagnosis of this form of accident from perforation of the stomach, duodenum, rupture of an aneurism, angina pectoris, irritant poisoning, etc. With reference to the surgical treatment, allusion is made to the recent work done in mediastinal surgery by various continental surgeons, and to the possibility of exposing the esophagus in the posterior mediastinum without injury to any important viscus. Drainage of the posterior mediastinum and suture of the rupture is regarded as feasible, and an attempt at such treatment more than justified in what is otherwise a necessarily fatal injury.

The literature on the subject is analyzed, and sixteen other cases are tabulated. It would seem that this class of injury, though rare, is not so rare as usually supposed, and it is an accident that it is overlooked and sometimes confused with post-mortem softening.

Table of sixteen cases appended.

STCLAIR THOMSON.

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## OBITUARY.

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It is with much regret that we record the death of another of the pioneers of modern otology, a man who by his individuality, ability and industry won for himself an enviable position as one of the highest authorities and teachers of our science.

Professor Joseph Gruber of the University of Vienna died March 31st. He was born in 1827 in Bohemia; received his medical education in the University of Vienna, taking his degrees as Doctor of Medicine in 1858. For two years he was assistant at the Allgemeines Krankenhaus of Vienna, and in 1863 was made Privat Docent, and conducted his private otological clinic at this institution. In 1870 he was made "Ausserordentlicher Professor," and in 1896 the higher title, "Ordentlicher Professor," was accorded to him.

Over thirty years, then, Prof. Gruber has been actively identified with the popular otological clinic of Vienna which bears his name, and during this time he has contributed largely to the information of the many post-graduates who have attended this otological center from every quarter of the globe.

We remember him as a teacher, blunt, concise, pains-taking and inspiring; as a clinician he was pre-eminently qualified by his large experience with an unusually abundant and varied material; as an authority in otology his opinions were given every consideration.

In pursuing his otological investigations, he practically carved his own way. In 1867 he published a valuable monograph entitled "Anatomo-Physiological Studies of the Membrana Tympani and Auditory Ossicles," which has been recognized as the foundation-stone of our present knowledge of this subject. In 1870 the first edition of his celebrated text-book on otology was published, and though over a quarter of a century has elapsed since this work appeared, there is little which has been recorded in the progress of otology which is not found between the covers of this volume.

Together with Schrötter, Rüdinger, Voltolini and Weber-Liel, he founded the *Monatschrift für Ohrenheilkunde*, of which he has been an active and valued collaborator to the present time.

He was a voluminous contributor to contemporaneous otological literature, and his monographs, clinical reports and critical reviews have appeared in many of the first medical journals of Europe.

Three years ago Prof. Gruber reached the allotted three-score and ten years and retired from his University work.

His death is mourned by the entire otological world and the general medical profession, and we desire, in the name of American otologists, to add another tribute to his memory.

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## ORIGINAL COMMUNICATIONS.

(Original communications are received with the understanding  
that they are contributed exclusively to THE LARYNGOSCOPE.)

### SOME CRITICAL AND DESULTORY REMARKS ON RECENT LARYNGOLOGICAL AND RHINOLOGICAL LITERATURE.

BY JONATHAN WRIGHT, M.D., BROOKLYN, N. Y.

(*Eleventh Paper. Second Series.*)

The impossibility thus far experienced in explaining how the cerebro-spinal fluid can escape spontaneously from the nose has hitherto prevented rhinologists from hazarding the statement or entertaining the belief that certain cases of rhinorrhea are the clinical manifestations of this phenomenon. No such consideration, however, has deterred StClair Thomson. In a most interesting and exhaustive brochure (*The Cerebro-Spinal Fluid; Its Spontaneous Escape from the Nose—London*) he not only announces this as his belief, but he also frankly admits the absence of any satisfactory anatomical proof of the existence of a direct communication between the cerebral ventricles and the intranasal chambers. He reports one case himself and collates the reports of twenty others, in the great majority of which he, by absolute proof or by the strongest argument, establishes as a fact the assumption frequently advanced by others, that the fluid draining from the nose in these cases is cerebro-spinal fluid. In his own case by careful chemical analysis he not only conclusively established the origin of the flow, but he has added very materially to our knowledge of the chemistry, the physiology and the dynamics of the body fluids. In a few of the cases the reports of which he discusses, however, he allows his enthusiasm to carry him further than the facts at his disposal would seem to warrant.



The fluid which drained away from the nose in his case and in nearly all the others approximated in quantity to half a litre a day, five to ten drops a minute, sleeping and waking. Much discomfort was experienced by these sufferers from the fluid running into the naso-pharynx during sleep. Dr. Thomson's work will be found of great value as furnishing a guide for differential diagnosis in cases of rhinorrhea. The points to be remembered are:

1. The chemical characteristics of the cerebro-spinal fluid.
2. The dripping guttatim from one nostril, rarely from both.
3. The rapidity of the flow is increased by abdominal straining with closed glottis.
4. Its continuance at night.
5. It is continuous, and not diminished and increased under special conditions of weather or other influences, although it may stop for days or months or years and then start up again.
6. It is frequently accompanied by cerebral symptoms.
7. It is an affection of adult life.
8. The quantity per diem approaches a half litre.
9. Treatment is of no avail.

Hydrocephalus both early and late has existed in some cases. In others there is a history of injury, but in many the condition existed without any such history, occasionally without another symptom. Occasionally it stopped spontaneously. There is one statement which is of more than usual interest to me and that is in regard to the sterility of the fluid escaping. Bacterial examination showed that it was almost entirely free of germs. From this fact Dr. Thomson derives further support for the accuracy of his observations in regard to the sterility of the nasal fossæ. It may be remembered that Dr. Park (*N. Y. Med. Journ.*, February 5, 1898,) and I failed to confirm his investigations, carried out with the help of Dr. Hewlett a few years ago. As for the fluid draining away from the nose being sterile in these cases, one would naturally expect this to be the case, since of course it is sterile when it leaves the cerebral cavity and surgeons, I think, will agree that there is no better way of making a surface sterile than the continual drip of sterile fluid over it. I trust I may be pardoned for dwelling on this point here, and also for suggesting that if Dr. Thomson will make cultures from the nasal mucosa in normal cases by means of the cotton swab vigorously rubbed against it, instead of a small platinum loop taking a drop from the surface, he will find that a larger proportion of his culture tubes will show bacterial growth than in his former investigations.

As these papers are confessedly only discursive and desultory remarks on the subjects with which they deal I may be permitted to digress here for a moment, from the review of Dr. Thomson's valuable treatise, in order to introduce a notice of the work of Calvino, an Italian observer published several years ago in the *Archivio Italiano di Otologia*, No. 4, 1897. By these experiments the writer believed that he had established it as a fact that in the nasal chambers there resides a bactericidal power which was derived from the epithelium lining these cavities, and not from their secretions. More recently he has published the results of further investigations (*Archivio Italiano di Otologia*, Nos. 2 and 3, 1899,) which, he thinks, support his former work. He proceeded thus: He placed a platinum wire loop full of a pure culture of some well-known bacterium far back on the nasal septum. He then occluded the nostril with cotton. One hour later he took culture from this selected spot. He noted the number of colonies growing on gelatine plates from this culture. Twenty-four and forty-eight hours later he made other cultures and found regularly under proper conditions there were fewer colonies of the bacterium in the latter plates. Hence having in his previous work eliminated the bactericidal power of the nasal mucus, he thinks the epithelium destroys the germs. I have pointed out in my remarks above on Dr. Thomson's book the fallacy of such technique. The constant dripping of mucus from above and the constant waving of the cilia would wash away his plants along the regular route to that "sewer sink" of the nose, the naso-and-oro-pharynx. If he could tell us what becomes of them there he would solve one of the mysteries which stand in the way of our growing knowledge of infection and its pathways, of immunity and its modifications and limitations. In his explanation of the disappearance of the bacteria he had planted on the nasal mucosa, he excludes the action of the mucus on the germs. The method by which he thinks he accomplished this is ingenious if not entirely convincing. He took sections of rabbits' intestines, cleaned them, tied them at one end and after inflating them with air, tied them at the other end. These little air bladders he sterilized in dry heat at 150 C. for ten to twelve hours. Many of course were thus destroyed, but some, he says, were not. By means of a fine syringe he filled these bladders with pure cultures of various micro-organisms, sometimes mixed with nasal mucus, introduced through one of the ends. He again tied that end so that the small sac was again air tight. These bladders he introduced into normal noses; having previously ascertained that osmosis of the nasal mucus into the sacs occurred, he kept them in the

nose for varying lengths of time. He found regularly that the cultures retained their virulence and grew in numbers. Contrasting these results with those previously attained he reasoned that the disappearance of the germs in the first series of experiments, reported in his former paper, was due to the bactericidal reaction of the nasal epithelium. In a few words these are the processes by which Calvino arrived at his conclusions, and although he does not seem to me to have excluded sources of error which completely vitiate them, one cannot but wish that the problem which he attacks with such ingenuity, honesty of purpose, and persistence of endeavor may attract others with like admirable qualities, who may adopt technique more free from error. He obtained practically the same results by experimentation as to the vagina and rectum, which it seems to me strengthens his theory as to the nose very much.

To return to the subject of rhinorrhea, it must be remembered that these cases to which Thomson refers do not include all that may be properly termed such. In fact, when they are studied there is no striking clinical resemblance between them and those cases of rhinorrhea which are dependent on vaso-motor influences and shade off into cases of vaso-motor rhinitis and true hay fever. Many old persons are frequently very much troubled by a serous transudation from the nasal mucosa, especially in cold weather.

It is more properly to these cases of vaso-motor rhinitis that Lermoyez refers (*Annales des Mal. de l'Oreille, etc.*, July, 1899,) under the title of "The Atropo-Strychnine Treatment of Nasal Hydrorrhea." He says that in his cases there has always been some arthritic history and usually some local lesion of the nasal mucosa, and nearly always he has noted the presence of a neurotic element. The local lesion is neither constant nor always of the same nature, and he is more disposed to look upon it as the result rather than as the cause of the neurosis. Nasal hydrorrhea is the analogue in the nose, so he says, of the watery diarrhea from the intestine in the neuroarthritic. He thinks that the origin of the discharge is from the glands, because it contains mucus. I am convinced that the serum comes directly to the surface from the blood vessels as well as from the glands. In fact, the origin is primarily from the blood vessels whether it gets to the surface through the glandular epithelium or through that of the surface layers. A microscopic examination of the mucosa from the upper region of the nose, especially when there is some edema, will nearly always show some nuclei and granular detritus in the layers of the surface epithelium, they having apparently been washed there by the transuding serum. The



same may be observed in the layers of the glandular epithelium. Indeed, in the latter may frequently be seen white cells which apparently have had their origin directly from a capillary which lies in immediate juxtaposition to the glandular acinus. Lermoyez declares that cauterization of one side will frequently stop the discharge from both. Such treatment, of course, whether unilateral or bilateral, can only be efficacious through the vaso-motor shock, but Lermoyez says that local procedures are usually of little value. He prescribes as follows:

℞ Atrop. sulph.....gr.  $\frac{1}{300}$   
 Strych. sulph.....gr.  $\frac{1}{30}$   
 In syrup of orange; for the first ten days, once a day; then for ten days, twice a day, and then for ten days more, if necessary, three times a day.

His results in forty-two cases were very encouraging, many being entirely relieved after operative procedures had failed.

It is gratifying that a tendency towards the more careful study of accessory sinus disease is to be noted in rhinological literature. It is a melancholy fact that in the growth of rhinology interest in technical details of treatment has ever preceded the careful study of the pathology, etiology, course and prognosis of the affections treated. The novice learns to use a nasal saw before he learns what to saw. It has not infrequently happened that much valuable time and great ingenuity has been wasted in perfecting an intranasal operation which subsequent investigation has proved to be useless or worse. The essay of Dr. Howard A. Lothrop, to which was awarded the Warren prize in 1898, on "The Frontal Sinuses and the Ethmoidal Cells," is an example of the kind of work which in an ideal state of medicine should precede rather than follow surgical attacks on these lurking places of disease. Its careful attention to anatomical description and the magnificent plates which accompany it equal, if they do not surpass, Zuckerkandl's great work in these particulars. The clinical part of the subject, however, is not treated with any fulness. This being America's contribution to the anatomy of the accessory nasal sinuses and various German investigators, Fränkel, Harke, Dmochowski, having reported extensive post-mortem observations, Lapalle, *Archive Internat. de Laryngologie, &c.* No. 3, 1899, in France continues this line of work and publishes an instructive résumé of the conditions noted in the accessory sinuses in 169 cases dying of various diseases, and examined by him post-mortem. In fifty-five, *i. e.*, in one-third of all the cases, he found evidences of inflammation, while more than one-half of those,

who had died of pulmonary disease, had sinus trouble. The maxillary sinus was much the most frequently involved, but the next in frequency was the sphenoidal sinus which was found affected about half as frequently as the maxillary. This agrees with the post-mortem examinations of all other observers with whose work I am familiar. It is evident that we have been too much disposed to look upon sphenoidal sinus disease not only as rare but as of very serious import when it does occur. Bosworth seems to lean to this view of the matter, but to say as does Ferreri (*Archivio Italiano di Otol-ogia, etc.*, 4 fasc., 1898,) à propos of a report of a case of sarcoma of the sphenoid, that inflammation in the sphenoidal sinus usually results in death, is to draw on one's imagination, and to shut one's eyes against the information to be derived not only from the autopsy table but from careful clinical study. The symptoms of such trouble are frequently the comparatively insignificant ones of post-nasal catarrh, but it will be found, I think, that the only way to cure these cases is by opening the sphenoidal sinus. There should be no great difficulty or danger in this procedure, and the day will no doubt come when it will be frequently done—possibly too frequently. There is nothing in the history of the therapy of maxillary or mastoid disease to make us doubt, that when it once becomes the craze, the sphenoidal sinus will be opened for every ill suffering humanity is heir to. Nevertheless it at present offers a promising field for legitimate surgical activity. Lichtwitz, in a later number of the *Annales des Mal. de l'Oreille, etc.*, December, 1899, draws attention to Lapalle's statistics, and to those of others regarding this matter, and points out how frequently accessory sinus disease, unrecognized during life, is discovered on autopsy, when the sinuses are opened. He especially calls attention to this fact in relation to the sphenoidal sinus.

In previous communications I have had occasion to cite the work of Cholewa and Cordes, who have advanced the theory that the bone lesion is the primary one in atrophic rhinitis. This is a very plausible, and we may venture to say a very probable, theory, but it lacks any satisfactory proof. A bone lesion is always present in a very old case of atrophic rhinitis, such a one as would naturally be selected for the excision of a piece of bone for microscopic examination; but whether or not the process is present in the beginning and is the first step in the march of the lesion and is the cause of subsequent changes in the mucosa in any given case has not yet been proven, and I can imagine no satisfactory way of establishing that proof however suggestive and acceptable the theory may be.

In a paper in this journal (THE LARYNGOSCOPE, April, 1899,) I have suggested that a primary bone lesion by compressing the veins in the bony canals might in some cases account for the effusion of serum in the tissues, which is the distinguishing pathological phenomenon in nasal polypi. Woakes' idea was, it will be remembered, that the edematous condition (myxomatous he called it) began in the bone. This, I believe, is not the case; a primary bone lesion could hardly be edematous or myxomatous, but it is easily possible that some bone change may, as I have suggested, be one of the causes obstructing venous return and leading to edematous polypi. In a recent number (No. 3, 1900,) of the *Monatschrift für Ohrenheilkunde*, it is apparent that this idea has occurred to Cholewa, in a modified form. He believes that this is the cause of the recurrence of nasal polypi after extirpation, and the inference is the necessity of removing the bone from the surface of which they spring. It may be remembered that Hajek several years ago (*Archiv für Laryngologie*, Band iv, 277,) clearly set forth the nature of this bone change. Cholewa criticises the statements of Heymann in his encyclopedic work just published, that nasal polypi are due to nasal inflammation and that their presence subsequently keeps up the inflammation, thus establishing a vicious circle of cause and effect. I am uncertain how Heymann uses it, but the term inflammation may be applied to all its various manifestations, including suppurative disease of the accessory sinuses. Should such inflammation be the sole cause of nasal polypi it would necessarily follow that the removal of the inflammatory conditions should cure the polypi, and the retrocession of the polypi should put an end to the inflammation, and thus the vicious circle would be broken. Now, as a matter of clinical experience, we know that frequently something very much like this is what happens in certain cases of sinus disease. We open a purulent antrum of Highmore and drain it, and the polypi which existed in the nasal chambers cease to recur after removal; but these are not the only cases in which we see nasal polypi. All the sinuses may be healthy, or at least give rise to no symptoms of purulent discharge and yet polypi not only exist but persist in recurrence after operation. In not a few cases bone disease of the middle turbinated is manifestly present, and I am very much inclined to believe with Cholewa that in these cases the bone disease, which is of course a form of nasal inflammation is the proximate cause of the edematous condition of the mucosa, just as I am ready to believe that sinus disease is not infrequently also the proximate cause of nasal polypi, but neither of these conditions, nor are both together sufficient to



explain the proximate cause of every case of polypi. I am only repeating, what I have in a former number of this journal, April, 1899, stated more at length, when I say that I am firmly convinced that there is a class of cases, frequently associated with asthma and hay fever, in which a pure vaso-motor neurosis is the important factor in the etiology. Now usually, and this should never be forgotten in the discussion of any question of etiology, all these various factors may be at once present in varying degrees of importance. A vaso-motor neurosis of the nasal blood vessels may exist without necessarily an accompanying asthma or hay fever and thus become a factor in the etiology of nasal polypi. As I have attempted to show in the paper referred to (l. c.) I believe that I have seen, and I still have under observation one such case, in which the nasal vaso-motor neurosis is the sole cause of the nasal polypus, without any other apparent cause and without any other apparent manifestation of the neurosis. It is of course understood that such a case is exceedingly rare and the liability to error on the part of the observer as to the etiology is very great, and subsequent events may prove I have been mistaken.

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## REMOVAL OF SEPTAL SPURS—A NOTE UPON THE USE OF THE CARMALT-JONES SPOKESHAVE.\*

BY D. J. GIBB WISHART, M.D., TORONTO, CANADA.

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For the past two years I have largely abandoned the use of the Bosworth nasal saw in the removal of those projections springing from the nasal septum, which present (a) the appearance of horns, such as occur usually far back in the nasal cavity, are bony in character, and impinge against a small area of the mucous covering of the inferior or middle turbinated surfaces; or (b) the appearance of shelves, usually more anterior in situation, partly cartilaginous and partly bony in character, and in length anywhere from one quarter to one inch, and lying parallel or almost parallel to the floor of the inferior meatus.

I do not include here those spurs whose sides incline towards each other at an angle, obtuse, or only slightly acute; nor again those spurs which are really deflections of the septum, the angle of the said deflection being sharply acute, nor, except in rare instances, any spur associated with a deflection of the septum. These call frequently for the saw operation.

In the classes of cases, A and B, however, the spurs lend themselves readily to the operation which I am about to describe, and after their removal there is left a clean, flat wound, which heals readily. The *modus operandi* is as follows:

The parts are prepared by spraying with an alkaline and antiseptic solution, preferably nasal plasma solution, followed by the packing around the spur in its entire length of pledgets of aseptic cotton moistened with a solution containing cocaine four per cent, extract of supra-renal capsule ten per cent and trinkresol twelve per cent. Care must be taken that the under and posterior surfaces of the spur be treated as well as those more easily reached. These pledgets are left in position for ten minutes and removed, and if the parts are not sufficiently anesthetised, renewed and replaced.

The patient is seated in the usual position for examination, the head supported firmly against the head-rest by an assistant, and the parts are brought as fully into view as possible. I prefer at this stage to use Palmer's speculum, as it allows of a good view of the

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\* Read before the Ontario Medical Association, June 7, 1900.

parts with a maximum of room for the handling of the instrument. The surgeon stands in front and to the right of his patient, and inserts the spokeshave with the bevel of the cutting edge always turned towards the septum, passing it gently back over the spur until it drops into the slot, and then pressing the blade as closely as possible up to the septum, by this means engaging the whole of the spur.

If the anesthesia is efficient the above can be done leisurely, and a careful examination made to see that the blade is in place. This being ascertained, the surgeon places the left hand upon the forehead of the patient, and with the right draws the blade rapidly and directly and firmly forwards, with sufficient force to overcome whatever resistance may be afforded by the bone or cartilage, and keeping the blade always parallel with and close to the septum.

The blade must be drawn through with one sweep, otherwise a jagged surface will be left, and when it is disengaged the spur will probably be found adhering to the mucous membrane of the septum by a small strip just in front of its original situation.

This must be snipped with scissors and the spur removed. The parts are then sprayed with an antiseptic and dusted with xeroform, and the cavity filled with a narrow strip of alembroth gauze, dipped in a five per cent solution of camphor-menthol and albolene. Healing results in a few days.

The bleeding is never extensive, owing to the action of the suprarenal extract, the wound is clean cut, and the surface, if anything, flatter than that obtained by the saw.

In the saw operation the hemorrhage frequently obstructs the view, and during the delay thus caused the anesthesia has time to pass off, thus causing a further delay, which is trying to the courage of the patient.

In the introduction of the blade difficulty will arise in two directions—first, in keeping the parts in full view, and, second, in passing it between the outer wall and spur.

To overcome these the parts must be fully illuminated and every endeavor made to keep the blade immediately under the eye of the operator until it is finally placed in position. A thorough knowledge of the position and shape of the spur, and its relations to the outer wall, must be obtained beforehand by the free use of cocaine and a probe, and this accomplished the sense of touch will be a useful guide. The operator may then carefully force the blade over the apex of the obstruction without doing damage to the outer wall, but usually dexterity rather than force is required to insinuate the blade along the winding path.



The narrower the blade the more easily may this be done, but even when the force used has been sufficient to fracture some part of the outer wall, the mucous membrane is not injured and no evil sequelæ resulted.

The instrument used has been that manufactured by Stearns Bros. of London, and with the large square-shaped fenestra. The advantages which I would claim for this method of operation are: .

1. The absence of bleeding till the operation is accomplished, with the advantage of non-obstruction to the vision.
  2. Great saving of time in operating.
  3. The almost entire absence of pain or fear to the patient.
  4. The satisfactory course pursued in healing.
- 47 Grosvenor street.
-

## LARYNGEAL ABRASOR.

BY PROFESSOR GHERARDO FERRERI, ROME, ITALY.

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The armamentarium of the laryngologist has been so extensively and rapidly increased of late that it should be our purpose to curtail the production of instruments in this field rather than to increase the number.

I hope, nevertheless, that I may be justified in presenting this new laryngeal instrument, for in its practical application it answers the purpose for which it is intended better than any known instrument. It is to be used for the safe and bloodless removal of small tumors, easily detachable false membranes and foreign bodies from the larynx.

We are frequently brought in contact with little patients in the throes of suffocation, where before deciding to open the trachea, we should like to avail ourselves of some instrument which can be easily and promptly introduced into the larynx, and one adapted to the removal of false membrane and small foreign bodies wedged in the lumen of the larynx or trachea, also for the removal of neoplasms which threaten stenosis.

Not only among children do we meet with these numerous difficulties in the examination and treatment of the upper respiratory tract, especially the larynx, but there are frequently cases which present great intolerance to any attempt at laryngoscopic examination, obstructions in the fauces, tissue overgrowth at the base of the tongue, such as hypertrophy of the lingual tonsil, interfering with the raising of the epiglottis, and other similar conditions in which a clear laryngoscopic examination and necessarily also an endo-laryngeal operation by proper illumination is almost impossible. In such conditions the laryngologist may be suddenly called upon to save a patient from impending suffocation, and before deciding on an external operation, he may desire to avail himself of a proper instrument to introduce into the larynx with which he may bloodlessly remove the obstructing agent.

To meet these emergencies I have devised an apparatus of simple manipulation, which on several occasions I have found extremely useful in cases such as these above cited.

The instrument consists of a long tubular laryngeal shaft with regulation curvature, containing at its distal end an olive-shaped

bulb; the proximal end fits into a specially constructed handle. The tube which carries the olive-shaped bulb is hollow to admit of an inner rod, which by the manipulation of the lever at the handle admits of traction and extension. Attached to the distal end of this shaft are five small fan-like blades, which, when the instrument is closed, are contained within the hollow olive-shaped bulb.

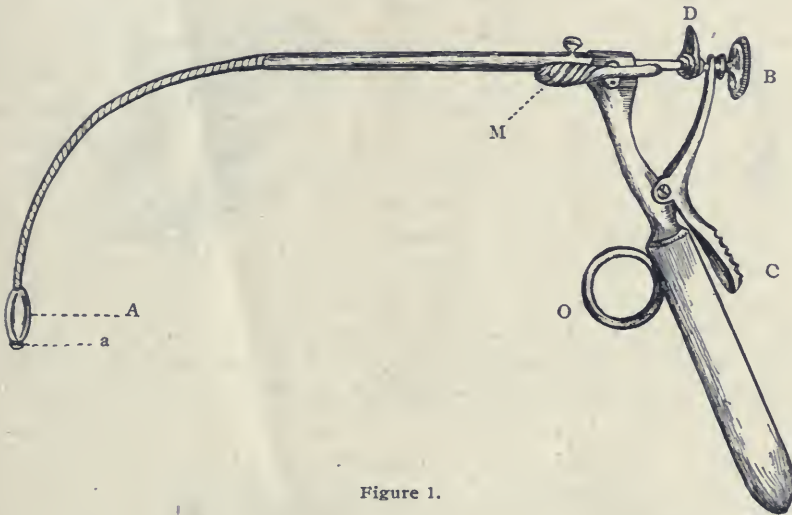


Figure 1.

The instrument must be considered in three aspects: closed, open, and ready for use. When the apparatus is closed, as in Figure 1, the olive-shaped extremity is shown composed of two parts, viz., the olive, *A*, and a small button, *a*; to the other end of the shaft is a milled screw, *B*; a lever, *C*; a check screw, *D*; a spring, *M*, and a finger-ring, *O*. In this position the instrument is introduced into the larynx.

Pressing forward the milled screw, *B* (as shown in Fig. 2), the button, *a*, is projected forward, thus liberating the series of five fan-like metallic blades contained within the hollow olive bulb. Then by pressing down the lever, *C* (as shown in Fig. 3), the terminal button, *a*, is drawn back to the olive, *A*, thus separating the metallic blades, *V*, and holding them apart as the petals of a flower.

The manipulations, as described in Figs. 2 and 3, are conducted after the instrument has been introduced into the larynx below the obstructing agent, and now by withdrawing the instrument from the



larynx with the fan-like series of blades still extended it may be readily seen that any foreign body obstructing the lumen of the glottis, if not adhering too closely to the walls, will be removed.

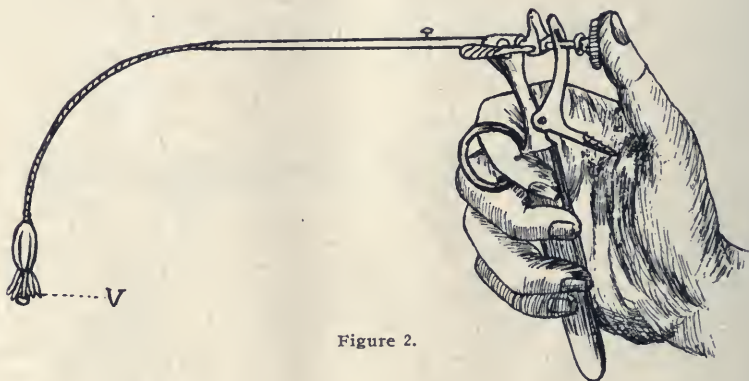


Figure 2.

For false croupous membranes and for papillomata obstructing the larynx, this instrument has proven superior to any other.

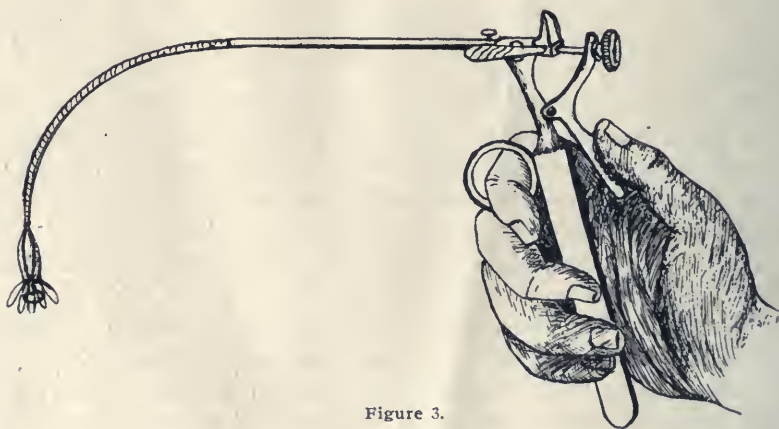


Figure 3.

Another valuable feature of the instrument is that it may be easily taken apart and can be readily sterilized.

It is made by Carfani & Salvini, 103 Corso Vittorio Emanuele, Rome.

## SYMMETRICAL OSTEOMA OF THE NOSE WITH REPORT OF A CASE.

BY OTTO J. STEIN, M.D., CHICAGO, ILL.

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Chicago.

Bony tumors of sufficient size to occlude the nostril are rare enough, comparatively speaking, to be of more than ordinary interest to the rhinologist. However, when we have two such growths invading both nostrils independently, then we have a condition that is really unique and curious. Careful search of the literature discloses very little indeed relative to this bilateral condition. It is true every authority on surgery recognizes osteoma of the cranial bones as occurring multiple. Also their involvement of, or origin in, the various cavities of the head. We also hear of and see cases where such a tumor has grown from one side and invaded the nasal sinuses of both sides. But of a symmetrical growth of the bones of the face, which at the same time involve the cavities of the nose, scarcely any reports can be found. The condition when seen is too evident not to be recognized, and therefore I reason that the meagerness of the literature on the subject can only be attributed to its great rarity. Paul Heymann, in his new "Handbuch der Laryngologie und Rhinologie," says: "Osteoma of the nose and its sinuses are exceptionally rare." He himself has not seen one case. Bornhaupt, in his careful research of the literature up to 1880, found in all only fifty cases, of which twenty-three cases were in the frontal sinus, twelve in the ethmoid cells, ten in the antrum and five in the sphenoid sinus. Osteoma of the orbital cavity, if anything, is common, and does not, as an individual pathological condition, enter into the consideration of this paper. Christian Fenger, of Chicago, before the surgical section of the thirty-eighth American Medical Association meeting (May, 1887) read a paper on "Living and Dead Osteomas of the Nasal and its Accessory Cavities." Reporting in connection a case of encysted orbital osteoma originating in the ethmoid bone, wherein four cavities were invaded, namely, the right nostril, orbit, frontal sinus and antrum. Fred Krammer, of New York, in *Annals of Surgery* for 1889, reports a case of osteoma of the right nostril, also invading, like in Fenger's case, the orbit and frontal sinus. C. G.

Coakley presented to the New York Academy of Medicine, December 26, 1894, a case of osteoma, of which he says: "Both nostrils were occluded by a hard growth springing from the inferior turbinal tissue." Whether this was a symmetrical condition or one growing from one side only and involving both cavities, the report does not make clear. My inferences are that the conditions on either side were not independent. Carl Seiler, of Scranton, Pa., in an article in the *International Journal of Surgery* for November, 1899, reports a case of "Apparent Congenital Eburnification of the Superior Maxillary." Here, like in Coakley's case, both nostrils were occluded. The left antrum was obliterated and the floor of the orbit on the same side encroached upon. But Seiler is specific in saying that the growth sprang from the left superior sinus process (meaning nasal process, presumably) of the maxillary bone. Jonathan Hutchinson, in his "Illustrations of Clinical Surgery," Vol. I, 1878, describes two cases occurring in his practice, which he designates as "symmetrical osteoma of the upper maxilla," in which both nostrils are occluded by bony tumors growing by broad bases from the nasal processes of the upper maxilla. The description of these two cases is the only one that bears resemblance to the case I will report as being one of symmetrical osteoma involving and occluding both nostrils. In fact the picture illustrating one of Hutchinson's cases is an exact counterpart of my case. The external deformity, as seen in the cases of Hutchinson and myself, has been observed and described both by Professor Alexander Macalister, of Cambridge, England, before the Royal Irish Academy, December 11, 1882, and by Dr. J. J. Lamprey, of England, in the *British Medical Journal*, December 10, 1887, as cases of "horned men." Lamprey, during his residence in South Africa in 1877, saw three black men all presenting symmetrical growths along the "infra-orbital ridge, over which the skin was freely movable and not in any way involved," and neither were the nostrils obstructed. Before entering into the etiology and pathology of this condition, I will but briefly describe the case I have to report. Patient, William Eagan, twenty-eight years of age, the surviving member of a family of six, all of whom, mother, father, one sister and two brothers, died of consumption. Had enjoyed very fair health up to about three years ago, when the ravages of consumption made rapid progress upon him. Twelve years ago claims to have received an injury to the larynx by falling on a projecting piece of wood. From that time on, he says he has spoken in a hoarse, loud whisper. About eleven years ago, while engaged in a



fistic contest, received a severe blow upon the nose, which was followed by a gradual enlargement over the lateral region of the nasal bones, continually growing in size without any pain or discomfort up to about four years ago. Since which time the condition seems to have remained stationary and the same. The patient, in applying to me for treatment, did not come on account of his nose, but for his hoarseness, nor has he at any time since the existence of his nasal trouble ever sought or been under treatment for the same. Hence, the only subjective symptoms in this case, nasal obstruction and anosmia, have, *per se*, been so gradual and uncomplicated in their appearance as not to inconvenience the patient sufficiently to apply for any relief.



Objectively we are foremostly impressed by the facial deformity presented by the patient, a classical "frog face" is to be seen. A symmetrically placed swelling, half the size of a large bird's egg, on either side of the nose between the lower and inner margin of the orbital cavities and the upper half of the dorsum of the nose, and the hanging lower jaw of the mouth-breather, combine to make up the frog-like appearance of the face. External palpation of the growth defines a tumor of bony firmness, sharp in outlines, with the overlying skin normal and freely movable. The right side is slightly larger than the left. The orbital cavities are but slightly encroached upon from below. The right nasal duct is obstructed by the growth, the left one encroached upon. On anterior rhinos-

copy we find the right nostril totally occluded, the left one almost so, by the protrusion of their outer walls into the cavities. This protrusion, occluding mass, which is firm and hard on palpation and offers resistance to the passage of a sharp instrument, occupies the position of the nasal wall of the antrum. On both sides it has grown up to and presses against the septum, so that the finest wire cannot be passed between the two; at the same time the pressure has not caused any ulceration or absorption of the septum. On the left side there is a depression seen on the surface of the growth corresponding to the situation of the middle nasal fossa. Above and around the growth on this side, about opposite the situation of the middle turbinal there is a small opening, admitting a fine probe and through which the patient can respire and even blow mucus. The mucous membrane covering these tumors is pale in color and thin, but not eroded or ulcerated and not secreting any noxious secretions. On posterior rhinoscopy the vault of the pharynx as well as the posterior nares are free from any obstruction or marked catarrhal trouble. On transillumination through the mouth, the antri show no transfusion of light, both alike offering obstruction to the passage of the light rays. The palate is highly arched and the mucous membrane of the pharynx the seat of a chronic catarrhal inflammation, the result of his mouth breathing. The examination of the eyes, as made by Dr. R. S. Pattillo, shows the right one normal with a vision of  $\frac{20}{30}$  in both. The left eye shows an inability to rotate inward, divergence outward two lines, pupil widely dilated, fixed, not responding either to light or accommodation; fundus normal.

Osteoma consists of a mass of bony outgrowth of ovoid shape, but often modified by the resistance offered in growing. As a rule they are benign in character, of slow growth and at times appear multiple. Its nature is determined from the tissue from which it springs as to whether it is of the hard or soft kind. Very often they are composed of both kinds.

Senn defines osteoma as "a tumor which possesses a structure resembling that of cancellous or compact bone, produced from a congenital or post-natal matrix of osteoblasts." As to the origin of osteoma, we distinguish two main divisions: (1) The heteroplastic and (2) the hyperplastic. To the first division belong all those which arise from the soft tissues of the body, as seen in the brain membranes, eye, lung and skin. The hyperplastic kind includes all the rest. If the hyperostosis arises from the periosteum it is known as the external variety. If from the medullary portion

it is called internal variety. If it is diffuse in character we have what is called hypertrophy; seen at times over the entire skull, resulting from rickets, syphilis or some disturbance in circulation, and known as Leontiasis Ossea. When the process is defined and of the external variety we have what is called exostoses, and if of the internal variety they are known as enostoses. The greater number of exostoses arise from the periosteum. In the soft or spongy kind we may have a capsule of compact bone, while in the hard or ivory kind there may be a nucleus of soft bone. The spongy kind is more numerous than the ivory, their compact bony capsule is of varying thickness, and the surface of this variety, as a rule, shows no wart-like irregularities. Osteoma of the nose have a covering of Schneiderian membrane, which at places is very thin from pressure. Their starting point varies. At times from any of the nasal sinuses, from the vomer or the lachrymal bone. In some cases they are connected with the mother tissue by a pedicle of spongy bone, in other cases their pedicle is made up of connective tissue and mucous membrane, and, again, in other and more numerous cases, the tumor lies free and unconnected. This latter seems to be true the older the growth is, or, as often has been the case, where the growth has been subjected to a blow or injury, it thus becoming detached from the mother tissue. In some rare cases two pedicles were found to exist. They usually have their beginning in young life. Of Bornhaupt's fifty cases, eighty-seven per cent occurred before the thirtieth year. They are of very slow growth, but positive in their progress, letting nothing stand in their way, but pushing through the firmest kind of resistance. Their size varies between that of a walnut and a goose egg. Smaller ones, the size of a pea, are more often found on the cadaver, having caused during life probably no particular disturbance. Bruns reports one removed weighing sixty grams. Spillman reports one weighing 120 grams and the size of a fist. Lenoir (Soc. d'Chir. de Paris, p. 468, 1856) found two separate osteoma in one nostril. Exceptionally large ones, like in the case of Hilton (Guy's Hospital Reports, Vol. I, 1836) where the growth, after twenty-three years, and having invaded the antrum, grew to weigh 440 grams, and having a length of eleven inches, are, of course, of seldom occurrence. The symptoms are not characteristic. At first an uncontrollable desire to rub the nose is described by some authors. Epistaxis and purulent discharges are mentioned by others. Later some patients complain of a feeling of fullness and sense of foreign body in the nostril, and at times pain, interference



in respiration and the suspension of the olfactory sense. Still later signs of deformity about the nose and face begin to show. Pressure symptoms like those of exophthalmus and epiphora may appear. Diplopia may be present. Often pressure necrosis results. The differentiation between the ivory and the spongy varieties is difficult on account of the variations in composition. Dolbean (Academy de Med. de Paris, 1866) believes the sense of feeling determines an elasticity in the spongy bone not found in the ivory variety. Richet (Academy de Med. de Paris, 1871) claims that the crackling sound produced by compression determines the spongy kind. The prognosis can be determined from what had been said. Where the growth is regarded as a manifestation of syphilis, as in Coakley's case, the iodides and mercury seem to cause their disappearance. Fenger says the encysted osteoma has no connection with syphilis and hence is not benefited by such treatment. Operation in reality offers the best possible relief. Those tumors, growing from the frontal sinus, are considered the most dangerous on account of their nearness to the cranial cavity. Of Bornhaupt's twenty-three cases, growing from the frontal sinus, eleven opened into the cranial cavity. To facilitate removal by operation the pedicle must always be sought for. Attempts at removal by penetrating the mass will prove the most difficult and often impossible task, for the ivory nature of many of these growths will deflect the sharpest chisel and defy the strongest drill or trephine.

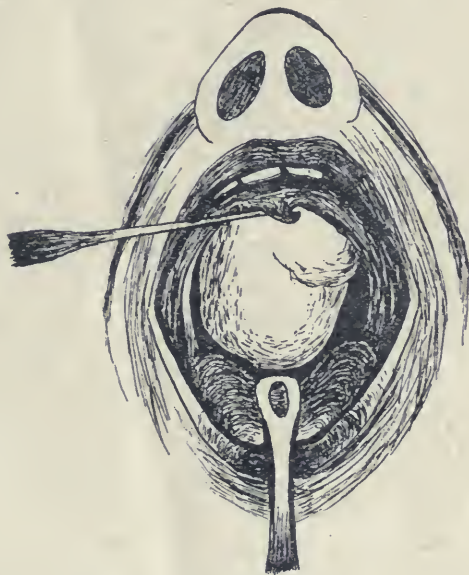
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## REPORT OF A CASE OF REMOVAL OF A MIXO-FIBROMA FROM THE NASO-PHARYNX.\*

BY HAL FOSTER, A.B., M.D., KANSAS CITY, MO.

The patient was a German farmer, aged thirty-eight years. Most of his life has been spent in Iowa and Kansas. Five years ago he had a very severe nasal hemorrhage which came near proving fatal.

Last November the patient presented himself to me, complaining of nasal stenosis on both sides. The voice was affected and he was obliged to breathe with his mouth opened. There were blood vessels on the surface of the growth which indicated that profuse bleeding might occur on the slightest manipulation.



I presented this patient before the Kansas City Academy of Medicine. He was sent to St. Margaret's Hospital and placed on tonics for several weeks. One week before the operation a daily spray of extract supra-renal capsule was used. The growth was so very

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\* Read before the Western Ophthalmological and Oto-Laryngological Association, Fifth Annual Meeting, St. Louis, Mo., April 6, 1900.

large that it could easily be seen. I decided to use the cold snare in removing this tumor. It was decided to use cocaine anesthesia. After its use a four per cent solution of supra-renal capsule was applied on cotton applicators. A strong cold wire snare was now used rapidly and the growth was removed.

Immediately after its removal the supra-renal capsule spray was used and the patient was put to bed. In spite of every precaution the bleeding was somewhat profuse, but not enough to do any harm.

The above-named treatment was continued for several days. The patient made a rapid recovery. In removing these tumors one cannot be too careful to prevent the loss of blood. The operation of transfusion should be resorted to in cases of extreme loss of blood.

The tumor was diagnosed a mixo-fibroma by a microscopical examination.

I desire to express my thanks to Drs. Murphy and McCall and several students for kindly assisting me in this operation.

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## REPORT OF CASE OF FIBROMA INVOLVING THE TYMPANIC CAVITY.

BY E. W. FLEMING, M.D., LOS ANGELES, CAL.

Fibromata developed in the most diverse parts of the body are extremely common; cases, however, of fibroid tumor involving the middle ear are sufficiently rare to deserve record.

A patient, a male, forty years of age, and in rather poor general condition, consulted me July 27, 1899, for an affection of the left ear of recent date. About one month previously he noticed a sensation of fullness in the left ear which became more intense each day. This was the first intimation that he received that his ear was not perfectly sound in all respects. In the course of a few days a slight discharge of pus was noticed and a rather solid fleshy mass could be felt with the finger near the outer orifice. The progress of the growth was very rapid, filling the auditory canal and extending outward to the plane of the cartilaginous meatus in about twelve days from the time it was discovered by the patient. On examination I found a fairly solid tumor-like mass growing outward from the depths of the external auditory canal and almost filling the concha. The visible portion of the tumor was about the size of a small walnut, coarsely lobulated and dark red in color. Blood vessels coursing near the surface gave evidence of its extremely rich vascular supply. The tumor was only slightly movable and highly sensitive to deep manipulation with the probe. It was so tightly wedged into the lumen of the canal that it was impossible to make out the exact point of origin, save that the posterior superior wall of the bony canal was at least one point of fixation. There was well-marked deafness on the affected side. Watch on contact. Rinne, negative—Weber heard to the left—mastoid normal—cervical glands not enlarged. The right ear was normal. I advised that a section of the growth be removed for microscopical examination. Accordingly cocaine and suprarenal extract solutions were alternately applied and a large section of the growth removed by means of the cold-wire snare. A copious hemorrhage followed which was stopped with a compact tampon of iodoform gauze. The specimen was submitted to Dr. Stanley Black for microscopic examination. He pronounced the growth a true fibroma. Patient was advised to go to the hospital and submit to a radical operation, but declined to do so.

During the following six weeks the treatment of the growth was limited to the employment of the cold-wire snare, by means of which fragments of the growth were removed, and the application of the galvano-cautery. This very materially reduced the size of the growth, leaving the cartilaginous portion of the canal free. It was now clearly evident, however, that the growth extended beyond the depths of the bony canal. Owing to the depressed and nervous state of the patient he was given a two-weeks' rest from all treatment. Following this, examination showed that there had been a rapid recurrence, the tumor being almost as large as when first seen.

Operation at the California Hospital was undertaken on October 2d, with the assistance of Dr. W. W. Beckett and Dr. F. D. Bullard. Owing to the size of the growth and to gain more ready access to the deeper parts, an incision was made over the mastoid, parallel to the insertion of the auricle, together with a forward dissection of the integuments from the underlying periosteum and division of the fibro-cartilaginous tube. This detached the auricle and cartilaginous meatus posteriorly and gave direct access to the osseous portion of the external auditory canal. It was now clearly seen that the growth filled the tympanic cavity and was attached to it as well as to the posterior wall of the bony canal. There was no evidence of the drum membrane. The mass was surrounded with a loop of number five piano wire and deliberately excised. The base, which apparently occupied the posterior aspect of the tympanum, carefully scraped and a thermo-cautery cautiously applied over the bleeding surfaces. The operation was concluded by lightly packing the meatus, the periosteum replaced and retained by absorbent sutures—the auricle stitched into position and an aseptic dressing applied over the ear and mastoid. Five days after the operation the dressings were removed, when it was found that primary union had taken place in the upper part of the wound over the mastoid and the auricle properly in place. There was no visible evidence of obstruction, either in the auditory canal or middle ear, and only a slight mucopurulent discharge. For about two weeks matters seemed to progress very well when granulation tissue rapidly developed, and, notwithstanding successive cauterizations and other measures, according to the rules of general surgery, steadily encroached on the lumen of the deep canal. A curettement was done under chloroform and the parts once more rendered free and open. This was the finish of my direct connection with the case, for the patient very soon after developed acute articular rheumatism with high fever, which completely prostrated him for over six weeks. An incident of his illness

was the development of a large abscess located on a level with and to the left of the tip of the coccyx.

January 16, 1900, at the request of the attending physician I visited the patient at the Christian Hospital. The ear was examined and the following notes were made: "With the exception of a small sinus, through which issues stringy muco-pus, the external auditory canal is closed. The obstructing tissue appears to be fairly organized, granulation tissue having none of the characteristics of the original growth. Small pouting granulations at the orifice of the sinus. Patient is now gaining strength rapidly and says he has at no time experienced any ear pain or other head symptoms."

February 27th, just seven months from the time I first saw him, patient presented himself at my office. He said he felt better and weighed more than he had for several years. The condition of the ear was the same as when seen six weeks previously. Further local treatment was advised, but patient declined to have anything done for the present.

The gross appearance of the structure of the growth at the time of its removal by operation was such as to excite a suspicion that it might be malignant. The previous microscopical examination, however, together with the fact of some seven months having elapsed without evidence of active malignancy and the decided improvement in general bodily health—argues against malignancy. The growth was strongly attached to the walls of the tympanic cavity and bony canal and I am not prepared to say from which it primarily occurred.

The special points of interest in this case appear to be—First, the nature of the tumor; second, its extreme vascularity and rapid growth after partial removal, pointing alike to possible malignancy, and third, its unusual location.

Extensive sacrifice of the tissues lining the bony canal in any case inevitably leads to cicatricial contraction more or less occlusive. Persevering after-treatment especially with the assistance of skin grafts may limit this to a minimum in a way in which circumstances prevented in the case detailed.

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## A TICK IN A MAN'S EAR FOR TWO YEARS.

BY B. F. CHURCH, M.D., LOS ANGELES, CAL.

A stockman of robust constitution applied for treatment with the following history:

Beginning two years ago, felt severe pain in right ear at intervals, as if, as he expressed it, something was clawing or scratching in his ear, and at times was deaf, which would suddenly pass away. Pain was not continuous, intervals of a month's duration would pass without disturbance in ear. For several months after being first affected he would pick out what seemed to be blood clots mixed with cerumen. After that he frequently removed hard lumps from ear. Sharp, darting pains in ear frequently annoyed the patient. Three or four days before I saw him pain became continuous in ear, also over mastoid region, and a feeling of numbness over that side of face. Examination showed the canal occluded with dried epithelial scales and wax.

After some difficulty this mass was syringed and picked away until presumably the drumhead could be seen. Upon close inspection movements of several small bodies were seen having the appearance of worms or slender maggots perforating a bulging drumhead. By firm traction upon one of them with forceps the mass was loosened, and upon removal was found to be a large live tick which had been snugly embedded in a sulcus against the drumhead, entirely closing the canal. The lower segment of the drum was eroded but not perforated, the remaining portion of the drumhead and canal greatly congested. Having returned to nearly normal after emptying the canal, and pain and all discomfort passed off by the following day.

Judging from the amount and condition of the hardened cerumen blocking up the canal from the meatus to the foreign body it is not unlikely that the patient's history of the length of time (two years) the tick remained in the ear is correct, making the case a peculiar one, in that the patient would have tolerated the pain and annoyance for that length of time before seeking relief, especially that he refrained from using the usual household remedy, sweet oil, which would have killed the insect. Also, the longevity of the tick, as it is generally believed that after filling themselves with blood (the female only being capable of much distension) from their host, drop off after a few weeks or months and die.

## **SOCIETY PROCEEDINGS.**

### **NEW YORK ACADEMY OF MEDICINE.**

#### **SECTION ON LARYNGOLOGY AND RHINOLOGY.**

Stated Meeting, April 25, 1900.

Wendell C. Phillips, M.D., Chairman.

#### **A New Galvano-Cautery Device for Controlling the Edison Current Without the Use of a Motor.**

Dr. Wendell C. Phillips said that the motor transformers had many serious objections, especially the expense and the noise. It was only during the past few weeks that he had seen a controller for the continuous current which fulfilled his expectations in this regard. The apparatus he was about to exhibit, so far as he had tested it, worked very well. The principle involved was the well known action of the current on a small column of liquid, and hence the name "The Improved Liquid Interruptor." The interruptions are at about the rate of 10,000 per minute. By means of this apparatus any sized cautery electrode can be heated and the current is easily adaptable to the head light and to the transillumination lamps.\* The manufacturer states that the instrument can be run continually for half an hour, and will then recuperate after about five minutes' rest. It is comparatively inexpensive. The instrument cannot be used with the alternating current.

#### **Diseases of the Antrum of Highmore.**

Dr. Emil Mayer presented two antrum cases. One of them was a woman of thirty-five, who had been well up to last December, at which time she had suffered from an acute attack of rhinitis with unilateral headache and discharge. On February 20th she had come to him with a bad discharge from the left nostril. He had operated upon her, opening the canine fossa, making an incision first from the malar ridge to the median line of the face down to the periosteum. He had then raised the periosteum, and with a chisel had made a very small opening and enlarged that with a hand gouge. He avoided the use of the burr because he thought much unnecessary suffering was imposed upon the patient by spiculæ of bone left in

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\* It consumes no more current than the general run of motor transformers.

the antrum after the use of the burr. The opening made would easily admit the tip of the little finger. Then, with a curved chisel he had broken down the wall of the antrum from the nasal side, and entered the cavity. A probe was run through, and by attaching a string to it a fenestrated tube was placed in position. The second case shown was that of a girl of eighteen who had had pain over the head and mastoid for about three years. He had operated upon her on November 4th, making an opening into the canine fossa. This had been kept open for six weeks. Two months later she had returned with another accumulation of pus, so on March 2d he had reopened the old wound and breaking down the nasal wall inserting a perforated tube had established through drainage. He now intended to leave it open so long as there was a discharge of pus.

#### **Abscess of Frontal Sinus—Operation—Recovery.**

Dr. Mayer also exhibited a patient upon whom he had successfully operated for disease of the frontal sinus. This patient had been treated previously for some nasal affection and liberal applications of the galvano-cautery had been made to his nose. When first seen by the speaker his sufferings were intense; he had not slept for nearly a week, he had chills and a temperature of  $101.5^{\circ}$ . Pus could be seen in both nasal fossæ, there was exquisite tenderness over the left frontal sinus and quite a deal of pain over the right maxillary antrum. On January 9th he operated in the presence of Dr. Asch, Dr. Ives, and several members of the class, on the frontal sinus, making an external incision and taking out a plate of bone of about eight millimeters in width. Pus flowed very freely. With a blunt instrument the vestibule of the nose was broken down, after curettement and thorough cleansing of the cavity. A fenestrated tube was then introduced, one end of which protruded above the incision and the other through the nose. There was an uninterrupted recovery and in six weeks' time the tube was entirely removed. An examination now shows a very small scar and within the nose the vestibule can be plainly seen.

This case illustrates another point of interest and that is that while there was undoubted antral disease on the opposite side nothing was done to relieve that, the operator being content with the first operation for the time being. Slowly all evidence of trouble receded until now there was an apparently normal condition.

Dr. Jonathan Wright said that the chief advantage of this operation is the continuance of the opening after the removal of the tube, and Dr. Mayer's cases had not had time to demonstrate this advantage.



Personally, he had about come to the conclusion that when these cases do not recover after thorough exploration and drainage, they really originate in the ethmoid cells or elsewhere, and affect the antrum secondarily. He had several times seen cases in which he felt sure the antral trouble had been secondary.

Dr. T. R. Chambers asked what was the solution employed for cleansing the frontal sinus. He had found that when there was a purulent discharge containing the Fraenkel pneumococcus it was acted upon by pepsin. He had had under his care a lady who had been made quite comfortable by irrigations with a modification of pepsin.

Dr. R. C. Myles said that this antrum operation through the naso-antral wall, as performed by Dr. Mayer, promised good results. He had been making openings one inch long and one half inch wide, and they frequently closed by membranous formation. He had had recurrences in several of the frontal sinus cases after external operation, because he had not made a sufficiently large opening into the nose. He had also removed the anterior end of the middle turbinal in these cases. In some persons the nasal process of the superior maxillary bone was so close to the cranial cavity that it was difficult to chisel away enough to secure an aperture of the proper size. Cases that had lasted less than six months yielded the best results from chiseling rather sparingly; those of very long standing demand a large opening.

Dr. Mayer said that the treatment of frontal sinus cases was at present in an experimental stage. Although the opening might close it would never be in the firm condition of the original bony wall. He had used for cleansing purposes a 1 to 10,000 bichloride solution; he had not used enzymol here, but in certain catarrhal cases he had done so, and with the greatest satisfaction.

Dr. Francis J. Quinlan exhibited a man who had

**Extensive Unilateral Edema of the Arytenoid Cartilage on the Right Half of Larynx, with much Tumefaction of the same Side.**

There was reason to believe that the case might be tubercular, although examination of the secretions had thus far been absolutely negative. The man had suffered for the past year from dysphagia and some dysphonia. He had thought the case might be a mixed lesion, viz., tuberculous and malignant. One should be especially careful about making the diagnosis in this class of cases, where the infiltration is of an unilateral character—in the one referred to there was no subjective symptoms.

### **Surgical Treatment of the External Deformities of the Nose, Illustrated by Cases, Models, Etc.**

Dr. D. H. Goodwillie read this paper. He said that the functional activity of the lungs could not be properly performed unless there was normal nasal respiration. Some of the causes of external deformities of the nose are: (1) Congenital; (2) traumatic injuries, directly and indirectly causing pathological changes; (3) hypertrophies and tumors of the hard and soft tissues, both intra-nasal and extranasal; malignant, specific and other constitutional diseases.

Case I. *Closure of an Opening in the Bridge of the Nose after the Removal of a Metal Bridge.*—The bridge had been introduced in 1892, and he had seen the patient for the first time in February, 1896. The metal frame can be seen through an opening an inch long in the bridge. There was little or no respiration through the nostrils. The upper lip and nose were separated from their attachments to the bone, and the metal frame was dissected away. Two operations were performed for the closure of the opening in the bridge. A section of tissue was removed from the end of the nose to cover the opening in the bridge. To increase the blood supply of the part the temperature was kept at 100° F. for forty-eight hours. Anesthesia with ether and chloroform had been kept up by means of the author's ingenious apparatus. He was of the opinion that no matter how skillfully inserted these metal frames are not desirable, and are apt to end ultimately in failure.

Case II. The patient, a girl of five years, when seen in 1878, was brought to him because the bridge and end of the nose were depressed, giving the appearance of a colored girl's nose. At the outset a plaster mask was made, and this was used in making a nasal splint for the subsequent treatment. An intranasal splint was employed to elevate the nose and add to the length of the columnæ nasi.

Case III. *Traumatic Injury of the Nose.*—Seen in May, 1883. The cartilaginous septum was separated from the bridge of the nose and from the columnæ nasi. The small portion of the septum protruding from the nostril was amputated, and then the contour of the nose was restored with the exception of the exostosis of the bridge. An appropriate extra and intra-nasal splint, made from a cast, was then applied. By this splint the contour of the nose and the position of the septum were maintained, and proper nasal respiration was thereby secured.

Case IV. *Sebaceous Tumors of the Nose*.—These growths were so large that they reached down to the chin. There was no intranasal obstruction.

Case V. *Deformity of the Nose from Syphilis*.

Case VI. *Nasal Deformity from Scarlet Fever*.—The patient, eighteen years of age, had had scarlet fever at six years of age. This had produced severe nasal disease and trouble with the right tear duct. The right nostril was closed by hypertrophied bone, the left by deviation of the septum and hypertrophy of the soft tissues.

Case VII. *Nasal Deformity from Thumb Sucking*.—The child had sucked its thumb, and at the same time had grasped the end of the nose with the index finger and middle finger. This had deformed the nose and seriously interfered with nasal respiration and with the general health.

Several other models were shown.

Dr. Goodwillie said that in all cases of deformity he takes a cast of the whole face for study and guidance. In this plaster reverse he makes a plaster cast. He then makes another one in wax, and on the wax he restores the proper position of the parts. With this as a basis he makes a splint which passes over the brow and down over the nose. When it is desired to support the septum, an intranasal splint is attached to the outer nasal splint by means of a spring with an adjusting screw. The object of this spring is to prevent undue pressure and interference with the circulation of the parts. The upper part of the external splint is held firmly by a band passing around the forehead and head.

Dr. J. O. Tansley said that from listening to such a paper one could hardly appreciate the amount of energy and enthusiasm and ingenuity that Dr. Goodwillie had thrown into this work any more than one could fully appreciate how remarkable and brilliant were his results.

Dr. Jonathan Wright said that Dr. Roe's operations were certainly wonderful, but few besides himself seemed able to perform them with success. He therefore fully appreciated very highly the suggestion to saw through the bones as done by Dr. Goodwillie.

Dr. Mayer asked if Dr. Goodwillie found that the presence of the rubber tubing was specially annoying to the patient. His own experience had been decidedly unfavorable to the use of the rubber, and that had led him to the making of vulcanite tubes. The patients had complained very much of the pressure of the rubber and of the irritation produced by it.



Dr. F. J. Quinlan said that Dr. Goodwillie was probably the pioneer in this country in rhinal and oral surgery, and the difficulties that he had surmounted in the days before we had cocaine and supranal extract could only be *imagined* by those of the present day. Regarding the nasal tube, he would say that the soft rubber tube had proved to be an excellent means of correcting deformities of the cartilaginous septum and was used to-day in preference to many of the more recent appliances that were devised for the correction of these irregularities.

Dr. M. D. Lederman spoke of the cases of occlusion and adhesions sometimes met with. In such two or even three operations might not be sufficient to accomplish the desired purpose. Reference was made to a case in which a young man had a membranous occlusion in the anterior portion of the nose. There was a very small opening and a membranous band on the left nasal vestibule. He had been operated upon twice before. The speaker said that this man had been made to wear a silver tube for a month because its removal, done tentatively before that, had shown a tendency to closure of the opening.

Dr. Myles said that Dr. Goodwillie had presented some very useful things to the profession. His name was connected with the saw, the trephine and the tube. His ideas had been appropriated by many operators, often without due credit.

Dr. J. F. McKernon said that from 1892 to 1894 he had seen five syphilitic cases operated upon, the Martin bridge being used. A modification of it had been used in two of the speaker's cases, the arms being considerably longer, and the resting piece over the nasal bones shorter. One of his patients, a man, had done pretty well for about a year, and then there had been sloughing. A woman of thirty-five was another patient, and her syphilis had practically run its course. In her he had used a very short, flat-curved covering over the nasal bones, the arms being particularly long, and passing down into the superior maxillary bone. When seen at the end of eighteen months the bridge was in position, there had been no sloughing, and the cavities on either side were practically patent. He had seen her again in February of the present year. There had then been no external manifestation of the presence of the bridge, and during all these six years it had given no trouble. This success was largely owing to the accurate fitting of the bridge to the bone and to the cure of the quinsy disease from which the patient had suffered.

Dr. Goodwillie said regarding the bridge operation, that the cutting through the bridge seemed to him a particularly satisfactory operation. He made a trephine opening through the nasal bones, and then with the saw cut as far as seemed desirable, and brought the nose into line. He had not had any difficulty in securing union. When the rubber tube is used at first in the nose there is considerable catarrh, and more or less irritation, but by repeated cleansing with strong peroxide of hydrogen a tolerance will be established. The rubber tube had not been intended to use in connection with bone except where the latter had been divided and it was desired to keep it in place.

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## THE LARYNGOLOGICAL SOCIETY OF LONDON.

*Fifty-Sixth Ordinary Meeting, March 3, 1900.*

*(Continued from page 367.)*

### **Specimen of Bony Spur from Ethmoid.**

Shown by Mr. Richard Lake. This specimen is the bony end of a septal ridge; as will be seen, the whole thickening of the vomer was removed. The apex of the exostosis, as it practically is, was firmly adherent to the middle turbinate bone, and in breaking through this adhesion I drove the sharp end of the severed base through the septum. The result was a perforation of the septum, which is of no importance to the patient, who does not know of its existence.

### **Case of Suppurative Cyst of Turbinal Bone.**

Shown by Dr. Henry A. Davis. The patient, a woman æt. forty, complained of a lump in the nose of three months' duration. On examination there appeared to be a large hypertrophy of the left inferior turbinal, which diminished slightly under cocaine. In spite of treatment, the swelling increased till almost complete nasal obstruction on the left side ensued. The swelling was red, dense, and painful.

The mucous membrane was incised with a bistoury, and about two drachms of thick pus escaped. On passing a probe into the cavity, bone was felt in all directions.

The patient refused further treatment, and beyond inserting a rubber tube into the cavity (which the patient herself learnt to do) and syringing with creolin lotion, nothing further was done till January, 1899, when the patient again applied for active treatment.

She was taken into the hospital, and the inferior turbinal sawn off; the cyst was too large to extract through the nostril, and it was removed piecemeal with forceps, so the specimen was not obtained.

The cavity was in the substance of the turbinate; it was filled with pus, and surrounded by a fine shell of bone.

Since the operation a bead of pus is always visible external to the middle turbinate bone; and whether this originates from the antrum, ethmoid, or frontal sinus, it is difficult to ascertain. Trans-



illumination does not show any inequality of the infra-orbital shadows, and, if anything, owing to the absence of the turbinate, the left cheek is more transparent than the right.

Dr. Herbert Tilley said he had twice examined this case, but found he could not agree with Dr. Davis as to his view of the topography of the parts. The speaker said that the anterior half of the middle left turbinate had undoubtedly been removed, and the remaining portion of the bone was now plainly visible and could not be mistaken for anything else. The inferior turbinate was seen below, but a considerable portion of this had been removed also. The granulation mass seen in the middle meatus he regarded as typical of suppuration of the anterior ethmoidal cells, and he should attack this with Grunwald's forceps until a healthier region was reached, and thus prevent other accessory sinuses becoming infected, if that had not already taken place.

Mr. R. Lake had arrived at the same conclusion as Dr. Tilley, *i. e.*, that it was the middle turbinal which had been removed, and not the inferior.

Dr. Dundas Grant said the pus might arise either from the anterior ethmoidal cell or from the frontal sinus, and he thought it would be very difficult to exclude frontal sinus disease with the evidence at their disposal. There was a slight amount of tenderness over the left frontal sinus on percussion. One very characteristic sign of frontal sinus disease was that pus ran into the nose, chiefly after the patient moved about for some little while, as when on his way to business. This was a contrast to antral suppuration, in which the nose was usually full of pus on waking in the morning. As to the anatomical condition of the middle turbinal body, he should agree with Dr. Tilley's description.

Dr. William Hill had elicited from the patient some symptoms that would point to frontal sinus disease. She had a feeling of fulness at times, and the position of this struck him as suggestive of the implication of the fronto-ethmoidal cells. He thought the middle turbinal had been removed, and that the granular mass seen was much above the position of the bulla ethmoidalis, and probably sprang from the fronto-ethmoidal cells.

Dr. Davis said that when the patient first came to the hospital there was a swelling on the inferior turbinal body, as in Dr. StClair Thomson's case of the girl shown that day; the middle turbinal was jammed and pressed against the septum. The cyst was located on the inferior turbinal body, and he thought that what the members now saw was the stump of the inferior turbinal.

Fourteen months had elapsed since the operation. The middle turbinal had been scraped, and a polypus had been removed from it. One could see the back of the pharynx on looking through the inferior meatus.

Mr. Baber agreed with Dr. Davis. On examination he had seen a dilated nasal cavity with apparently a small inferior turbinated body lying on the outer wall, which he supposed was the remains of the amputated inferior turbinated body; the middle turbinated body was thickened by disease, and pus was seen on its outer side. Treatment would consist in removing the anterior part of the middle turbinated body as much as possible, and then investigating the antrum, when possibly pus would be found in it. That course must be followed before doing anything to the frontal sinus.

**Case of Extreme Hypertrophy of Inferior Turbinals in a Boy.**

Shown by Dr. Henry A. Davis. The patient, a baker boy *æt.* thirteen, has extreme hypertrophy of the turbinals on both sides. The hypertrophied tissues are soft and polypoid, and though they have been treated with cautery and snare, after a short time the hypertrophy is as large as ever. There is edema of the root of the nose; no adenoids are present, and headache is constant. He is to have both turbinals removed anteriorly, and is brought before the Society simply as a case of interest.

Dr. Herbert Tilley thought that such extreme hypertrophy of the inferior turbinals in a small boy was uncommon, and he suggested removal of the anterior extremities, which would give very great relief, whereas a galvano-cautery operation would be inefficient and not permanent in its results, because the bone as well as mucous membrane was hypertrophied.

Dr. Scanes Spicer had seen a similar extreme condition in a girl *æt.* thirteen, at St. Mary's Hospital that day; he had removed the hypertrophied masses with a cold wire snare.

Dr. Dundas Grant considered it might be difficult to introduce the scissors satisfactorily underneath the turbinal in this case, and under these circumstances he advocated the use of Bosworth's saw, cutting from below upwards. This instrument he had used in a good many of these cases for the purpose of cutting through the lateral attachment of the anterior part of the inferior turbinated body. When this was done it was easy to cut through the detached peninsula by means of a snare. Secondary hemorrhage was never great, and coming from a spot so far forward in the nasal cavity, it could be easily checked by means of a pledget of gauze. In this respect it contrasted strongly with the "spoke-shaving" operation.

Mr. Baber said if there was no thickening at the back of the turbinated bodies, he should snare off all the hypertrophied tissue in front, and if that was not sufficient he should remove the anterior end of the inferior turbinated bodies with scissors and snare. As regards plugging, he did not think he had ever plugged the posterior nares since he had been in practice. One ought to be able to find the position of the hemorrhage, and be able to stop it with long strips of gauze or lint introduced from the front.

Dr. FitzGerald Powell asked if the galvano-cautery should not be given a trial in the treatment of hypertrophy of the turbinate bones before resorting to the more severe method of removal by the snares and spokeshaves.

Dr. Davis said that on post-nasal examination there was no enlargement of the turbinal body, or adenoid vegetations, but some stenosis of the posterior pharynx. He had tried the galvano-cautery, and the growths had been completely snared off, but they always recurred. He had not applied any local treatment to the patient for a month.

#### **Case of Extensive Ulceration of the Throat for Diagnosis.**

Shown by Dr. Scanes Spicer. Patient was a man æt. nineteen, with extensive, continuous, painless ulceration of the mucous membrane, reaching from the nasal septum over the sides and posterior wall of the naso-pharynx and pharynx down to the vocal cords, and involving the epiglottis, which was pale and seamed with antero-posterior cicatrices, and not ulcerating now. The ulcerating surface was dry and covered with a glazed pellicle. The ulceration was quite superficial, and the surface did not readily bleed. The soft palate was almost entirely gone, but there was no loss of bone in the hard palate. There was no neoplastic granulomatous raised infiltrated margin, and nothing like "apple jelly" spots; and, except in the epiglottis, there was no cicatrization going on. The condition had lasted five years, but what treatment had been adopted could not be ascertained. There were no other evidences of syphilis, congenital or acquired, nor of ordinary tuberculosis. The age and several observations led him to consider it a case of lupus, and by exclusion of syphilis, tuberculosis and epithelioma, he was supported in this view.

The President said that twenty-five years ago the case would have undoubtedly been called a case of inherited syphilis; but there were no signs of this either in the teeth or eyes or elsewhere, and no other syphilitic signs. His epiglottis had an appearance rather suggestive of lupus. Personally he would look on the case as of the chronic tuberculous lupoid type.



Mr. R. Lake said this case reminded him of the class of patient formerly described as "syphilo-scrofula," a disease in children with some syphilitic and "scrofulous" taint.

Dr. StClair Thomson suggested testing of the case with the old tuberculin; it had not been used in these doubtful cases to the extent it might have been, as no harm could be done when the lungs were not affected; this was a matter for regret.

Mr. Spencer thought the ulceration of the palate certainly looked like a syphilitic lesion, and he suggested that iodide of potassium and mercury might be given for some time; there did not seem to be any marks of tuberculous taint about the patient.

Dr. Spicer thought there would be more destruction of tissue if this were syphilis, as the ulceration had been going on for five years. He could find also no other signs of syphilis, congenital or acquired.

Sir Felix Semon entirely agreed with the President; the epiglottitis was so characteristic of lupus that probably no one would hesitate to make that diagnosis were it not that the pharyngeal aspect was more doubtful.

Dr. Lambert Lack thought that potassium iodide should be given if this had not already been done.

Dr. Scanes Spicer said the boy was taking iodide of potassium in five-grain doses since his first visit a week ago. He should be pleased to show the case again to the Society in three month's time.

#### **Case of Hoarseness and Aphonia of Long Standing in a Girl æt. Thirteen.**

Shown by Mr. de Santi. The hoarseness and whispering voice had been present from the time the child first began to talk.

The larynx appeared normal, and there seemed to be nothing the matter with the nasal or pharyngeal regions.

She had been treated with valerian and electricity, but with no benefit.

He asked for suggestions as to treatment.

The President said that the ventricular bands were thickened, and not as smooth and regular as in normal circumstances.

Dr. Dundas Grant said there was evidence of chronic purulent rhinitis; had treatment been directed towards the nose?

Mr. R. Lake understood Mr. de Santi to say "it was a rare case of a normal nose."

Mr. de Santi said treatment had not been directed to the nose. The patient had a brother, twenty-two years of age, in a somewhat similar condition, but there was some voice in his case. The mother was going to bring her son to see him (speaker),

Dr. Lambert Lack said in his opinion this was not a normal larynx, but a case of well-marked chronic laryngitis.

**Case of Obstructed Subdermal Lymphatics of the Face, in which Frontal and Antral Disease had been Suspected.**

Shown by Mr. de Santi. The patient, a woman of twenty-two, suffered from a curious affection of the subdermal lymphatics of both cheeks.

The left eye was nearly closed through edema of the upper and lower lids, and there was puffiness and edema over both frontal sinuses. The case was really not one for the Laryngological Society, but he showed it because it had been suggested that antral or frontal sinus mischief might be the cause of the trouble.

It was, however, quite obvious this was not the case, and Mr. de Santi diagnosed the condition as "blocked lymphatics." As to its causation, the patient attributed it to mosquito bites in Holland and Paris some three months ago, and this might possibly be the cause.

The treatment adopted was inunction with Ung. Belladonnæ.

Mr. Edwards remarked that this was not a laryngological case. He agreed with Mr. de Santi in the diagnosis.

**Case of Ulceration of the Larynx.**

Shown by Dr. Jobson Horne. The patient is a man æt. forty-five, with symptoms of eighteen or nineteen months' duration; at first weakness and uncertainty of voice at intervals, then hoarseness. For the last six or eight months he has been steadily getting worse, with at times complete aphonia.

There is pain and oppression referred to the right side of the larynx, and a lump could be felt in this region for the past two or three months.

There is some wasting.

There is no history or evidence of tuberculosis in the lungs, and the examination of the sputum is negative.

**Case of Tumor of Nasal Septum.**

Shown by Dr. Herbert Tilley. The patient, a female æt. sixty-two, had a dark red, broadly pedunculated tumor growing from the right side of the septum. Nasal obstruction and repeated nose bleedings drew her attention to this mass last September, when the growth nearly reached the external naris.

It was removed by means of a snare, and profuse hemorrhage occurred some four hours afterwards, which was checked by plugging the nostril.

The growth has since then recurred, and is now the size of a broad bean, and is of a purple-red color and grows from the region of the tubercle of the septum.

The President thought it was suggestive of sarcoma, owing to the large amount of bleeding and the age of the patient. He advised operative interference.

Dr. StClair Thomson said the growth had the character of a fibro-angioma or bleeding polypus of the septum. He had shown a similar case himself, and had watched several others which had been shown to the Society; so that he ventured to think Dr. Tilley need not be alarmed at any hemorrhage which might take place, or at the recurrence. One of Dr. Thomson's cases had recurred twice, and had been condemned as a sarcoma requiring free excision of the septum. The growth had simply been thoroughly snared, the base curetted and cauterized, and the patient was now alive and flourishing two years afterwards. Finally he would say: "Put not too much faith in pathologists, but be guided by the clinical symptoms."

In reply, Dr. Tilley said that Mr. Robinson had suggested the malignant nature of the growth because the septum was bulged towards the side opposite the seat of the growth. He (the exhibitor) thought that this deviation was only part of a general deviation of the septum, and that the slow recurrence of the growth after its first removal six months ago was opposed to the view of malignancy. It seemed more of the nature of a fibro-angioma; he purposed removing the recurrence in the course of a day or two, and microscopic sections of the tumor would be shown at the next meeting.

#### **Case of Pachydermia Laryngis.**

Shown by Mr. Charles A. Parker. This case occurred in a male æt. forty-five, who works in a forge. He came to the Throat Hospital a week ago on account of dyspnea. He gave a history of having had a bad attack of laryngitis three years previously, and frequent attacks of hoarseness since then. Three days before coming to the hospital he had apparently a most severe attack of dyspnea.

On examination there was found to be an exceptionally large pachydermatous mass occupying rather more than the posterior third of either cord, and superimposed upon this chronic condition there was an acute laryngitis, with a plentiful formation of crusts. He was admitted into hospital on account of the dyspnea. The laryngitis is now much better, but the pachydermatous condition remains.



The case seemed worth bringing before the Society on account of its being an unusually well-marked example of pachydermia laryngis, and on account of the dyspnea which accompanied it.

Dr. Dundas Grant considered it very suspicious of tubercular disease, and if it were under his care he should give a diagnosis accordingly. There was much infiltration of the tissues round about what was otherwise a typical pair of pachydermatous growths, and the patient himself asserted he had been wasting and felt very flabby. Very often a diagnosis of pachydermia laryngis proved to be incorrect on further development.

Dr. Scanes Spicer did not see any evidence of tuberculosis in the larynx; the ventricular bands were greatly enlarged, red, and prominent; why was this? He was not aware that this remarkable enlargement, confined to the ventricular bands, was any evidence of tuberculosis. The condition of the cords was pathognomonic of what has been called pachydermia.

Mr R. Lake was in accord with the opinion of Dr. Grant; he would like Mr. Parker to show the case again if possible. The patient had lost flesh in six months; the masses of tissue were very red, more so than one would expect in a case of pachydermia laryngis, where they should be pale.

Mr. Parker had not examined the larynx at the meeting, but he thought that all the surrounding thickness and redness might be accounted for by the laryngitis the man had a week ago. This swelling was subsiding.

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## THE LARYNGOLOGICAL SOCIETY OF LONDON.

*Fifty-Seventh Ordinary Meeting, April 7, 1900.*

F. DE HAVILLAND HALL, M.D., President, in the Chair.

The President referred with regret to the loss the Society had sustained in the death of Dr. McNeill Whistler, one of the original members.

The following cases and specimens were shown:

### **Case of Laryngeal (?) Whistling.**

Shown by Sir Felix Semon. The patient, a boy *æt.* thirteen and one-half years, who shows this physiological curiosity, was brought to the observer on account of a nervous cough. His father incidentally mentioned that the boy was able to produce a curious noise of a shrill whistling character with his mouth wide open. The Society will convince itself that this is so. The whistling sounds as if it were produced in the ordinary way, but as the boy can produce it whilst a laryngoscopic examination is being made, it is obvious that the origin of the sound must be in the larynx or even lower down. When he produces the sound it is seen that the epiglottis is forcibly drawn downwards, so that it is impossible to see the cords in their entire length. Enough, however, is seen of the posterior parts of the cords, and of the arytenoid cartilages to show that the glottis is not closed in its entire length, but that the inner surfaces of the arytenoids stand at least one and a half to two millimeters apart from one another whilst the whistling is produced. No abnormal movement of the chest can be perceived when the boy is stripped and then produces the sound. It is therefore very likely that the sound is, actually produced in the larynx, although it is difficult to understand how it can be with comparatively so widely open a glottis.

The President thanked Sir Felix Semon for bringing this case before the notice of the Society. It was certainly a rare phenomenon. He wondered if any member had ever come across a similar case; he certainly had not himself. He thought they would all agree with Sir Felix Semon that the sound was produced in the larynx; he did not think there was any need for the mark of interrogation which was applied to the word "laryngeal."

Dr. Furniss Potter said it would be interesting to know if the whistling would take place if the epiglottis were held up. It seemed to him that on expiration the epiglottis became doubled upon itself, and was drawn down upon the arytenoid region. He wondered if it were possible that the whistling sound might be produced by the air passing through the chink formed by this drawing down of the epiglottis?

Mr. Spencer did not think the whistling was due to the position of the epiglottis; the whistle had still been heard under the conditions the previous speaker mentioned; besides, the epiglottis was not drawn down so far as Dr. Potter imagined.

Mr. Waggett asked if Sir Felix Semon had obtained a view of the bifurcation of the trachea? Was it certain the boy had not some structure resembling the syrinx of a bird? The notes produced had the characters of the birds' notes.

Dr. Bond mentioned that some twelve years ago he remembered a student at the Golden Square Hospital who could whistle with the top of his larynx. He had abnormal power over his throat muscles altogether; for instance, he could put the tongue behind the soft palate and swab out the naso-pharynx. It was easy to see the larynx during whistling. The student simply used the sides of the brim of the larynx, *i. e.* the ary-epiglottic folds in the same way that he used the lips when whistling with his mouth. The epiglottis had nothing to do with the production of the sound. He did not remember whether whistling with the larynx and the mouth at the same time could be performed.

Sir Felix Semon, in reply, said that although he had seen a good way down the trachea he had not seen the bifurcation. He did not think that either the epiglottis or the aryteno-epiglottidean folds had anything to do with the production of the sound. There could be no doubt that during its production the vocal cords remained a good deal apart. His own—although very theoretical—explanation was, that the boy probably had an unusual amount of control over the crico-thyroid muscles, and that it was owing to their forcible contraction, and to the unusual amount of tension of the vocal cords produced thereby, that when a forcible expiration was made the sound was produced. Mr. Waggett's idea of the syrinx was very interesting, but he could not say whether it applied to the case.

#### **Case of Rhinoscleroma.**

Shown by Dr. Dundas Grant. A female æt. twenty-six, came under my observation on July 14, 1898, on account of complete



obstruction of both nostrils. The tip of the nose was found to be hard and swollen, and the nostrils were completely blocked by a reddish growth of almost fibrous consistency; there were fine symmetrical scales on the soft palate, and the uvula had completely disappeared. It was impossible to obtain a rhinoscopic view, but the finger introduced into the naso-pharynx enabled one to detect a firm dense bar extending horizontally across the lower margin of the posterior nares. A microscopic preparation of a portion of tissue removed was made by Mr. Wingrave, and Dr. St. George Reid made a cultivation which he considered showed the capsuled bacillus typical of rhinoscleroma.

The case disappeared for about a year, but about six weeks ago she returned with the nostril quite blocked, my previous treatment of scraping and dilating having had only a temporary effect. I managed to introduce a fine tangle-tent through the diminutive orifice, and then inserted a small pledget of cotton wool dipped in pure lactic acid.

The President said the case was similar to one shown by Sir Felix Semon and Dr. Payne at the Pathological Society a good many years ago, that was the last case of rhinoscleroma he had heard of in London.

Dr. Watson Williams asked if the condition of the soft palate had been modified to any great extent by treatment?

Mr. W. G. Spencer asked if there had been any infection or any history of inoculation from any members of the family, or from any persons in the district where she lived with whom she had associated.

Sir Felix Semon referred to the case which Dr. Payne and he had shown many years ago at the Pathological Society, and the illustrations of which in that Society's "Transactions" he handed round. In that case the changes were even more pronounced than in Dr. Grant's case. Two hard, red, semi-globular tumors protruded from the nostrils, whilst the palate was in a condition similar to that seen in Dr. Grant's case. The hardness of the tip of the nose in the present case was very characteristic. The result so far obtained by Dr. Grant by the application of lactic acid in one nostril was very satisfactory, but he was afraid that it would be as temporary as the one obtained by himself in his own case, by means of the galvano-cautery. In that instance directly the treatment ceased the disease returned. The patient had passed out of his hands into those of the late Sir Morell Mackenzie, who had published a note about the case in the *British Medical Journal*. He, too, had obtained no lasting results.

Dr. StClair Thomson asked if the palate was characteristic of the disease. In the few cases he had seen in Vienna, the palate was never left so mobile as in this instance, though this was merely a question of degree; nor did the rhinoscleroma heal up so completely—it was more thickened and leathery. He also inquired if this case coincided with the pathological tests—bacteriological and histological—of rhinoscleroma.

Dr. Dundas Grant, in reply to Dr. Watson Williams, said the palate was in exactly the same condition now as when the patient first came to see him; nor was she conscious of ever having had particularly soar throats. He was unaware when the change took place. In reply to Mr. Spencer, he was not aware of any infection or inoculation. The patient had had iodide of potassium, but it made no difference to the condition. Cultures had been taken and answered exactly to the description of rhinoscleroma. They were totally dissimilar to those of leprosy. They showed diplo-bacilli, with extraordinarily large capsules.

#### **Specimen of Larynx Removed on Account of Sarcoma.**

Shown by Dr. Dundas Grant. A female, æt. forty-nine, came under my care on February 6th, on account of loss of voice and difficulty in breathing, the former having gradually developed since the month of July, and the stridor since December. The stridor seemed from its tone to arise somewhat deeper than the larynx; it was purely expiratory in character, and was accompanied by excursion of the larynx. There was no pain on swallowing. On examination externally I found a well-marked bulging of or on the right ala of the thyroid cartilage, and the laryngoscope revealed a rounded sessile growth underneath the right vocal cord, the surface of which was fairly smooth; the left vocal cord was immobile and almost completely hidden by the ventricular band, the left half of the vestibule being distinctly swollen. The diagnosis lying between malignant disease, probably epithelioma, and syphilis, inquiry elicited that she had had one miscarriage, then one still-born child, then four boys, all strong and well, and afterwards one girl, who only lived for forty hours, and lastly the youngest child, now aged sixteen, and who is rather short in stature. I decided to give antisyphilitic remedies a trial, but in view of the possible danger of edema of the larynx arising from iodide of potassium, I recommended her coming into the hospital, where for a fortnight she was treated with iodide of potassium and mercurial inunctions. Her dyspnea seemed very slightly to improve, but practically things remained *in statu quo*, as when she moved about the dis-

turbance in breathing was quite as bad as ever, and the voice became if anything weaker. My colleagues agreed with me that it was a case of malignant tissue, and with one exception, considered it a suitable one for extirpation of the larynx. My friend, Dr. Lambert Lack, kindly placed his experience, both in the diagnosis and operative treatment, at my disposal, and on March 3d I removed the larynx, as you see. The patient is still in hospital; the opening into the pharynx is rapidly diminishing in size, and I hope to bring her before the Society at a later date, and to give the clinical details with more completeness. Meanwhile, the preparation shows the larynx opened from behind; the stump of the epiglottis is visible, as also the rounded growth under the right vocal cord, which was singularly conspicuous in the laryngoscopic image; the much larger growth underneath the left vocal cord somehow eluded inspection, probably because it was hidden by the infiltrated parts on the right side. The section under the microscope shows it to be a well-marked sarcoma, which, I presume has grown from the perichondrium on the inner surface of the thyroid cartilage. Had it started from the outer surface, I venture to believe that the external swelling would have attained much greater dimensions during the eight months that the disease has certainly existed.

The President hoped Dr. Grant would show the patient later on.

**Case of a Girl with Hereditary Syphilis causing Hypertrophic Laryngitis, and showing Recesses in the Naso-Pharynx produced by the Approximation of the remains of Luschka's Tonsil and the Eustachian Cushions.**

Shown by Dr. StClair Thomson. After the various opinions enunciated at the last meeting *apropos* of Mr. C. Heath's case, Dr. StClair Thomson feared there might have been a plethora of cases shown by members to illustrate their divergent views. He himself could easily have brought half a dozen cases from his clinic to demonstrate that, what had been called "sinuses in the vault of the naso-pharynx," were nothing but depressions produced as the title of his communication described.

The case shown was selected for exhibition, as it also illustrated the laryngitis which sometimes developed with hereditary syphilis. He had found that the hoarseness and loss of tone in the voice in these cases was apt to remain in spite of specific treatment, and he would be glad of suggestions for treatment on this point. The girl had been under inunctions of mercury for some time.



Mr. Yearsley thought most members could bring cases forward showing the recesses formed by Luschka's tonsil quite as well. One noticed them pretty frequently in one's clinic.

### **Six Cases of Frontal Sinus Empyema.**

Dr. Herbert Tilley showed six cases of chronic frontal sinus empyema, upon five of which he had performed the external radical operation. Three cases were bilateral, and of these one had been operated upon on both sides; the others, as yet, on one side only.

In three of the cases, after freely removing the anterior wall, curetting away the diseased mucous membrane, and making a large opening into the nose, à Luc's drainage-tube was inserted, and the external wound sutured at the close of the operation. In the remaining two the sinuses were packed with gauze instead of inserting the tube, a method which Dr. Tilley considered far preferable to Luc's operation. The exhibitor thought that the success of the operation depended upon careful attention to three main points:

1. Removal of the anterior end of the middle turbinal and all chronic inflammatory products in the mid-meatal region before proceeding to the external operation.
2. Making a free passage into the nose.
3. Careful curetting of the diseased mucous membrane, followed by packing with gauze until a healthy lining of granulation tissue was produced.

By making the incision in or immediately below the eyebrow the scar, as in the cases exhibited, was scarcely noticeable. The sixth case was interesting in that over the region of the left frontal sinus was an expansion of the outer wall of the sinus, resembling superficially a syphilitic boss the size of a five-shilling piece. The patient had complained of very severe headaches, accompanied by profuse discharge of pus from the nose, and the nostril was blocked by many large polypi. Since these had been removed the headache had entirely ceased, and it was easy to irrigate the sinus through the nose.

[This case was operated upon the following day; the left sinus was so large that a double thickness of iodoform gauze, two inches wide and three feet ten inches in length, was easily packed into the cavity.]

Dr. Pegler asked if all these cases had been treated alike without drainage tubing, and stuffed with gauze only?

Dr. Watson Williams asked how many of these cases were found to have the fronto-ethmoidal cells involved. The cosmetic, as well as the surgical results, were excellent in all, and surprisingly good in most of the cases. The series presented certainly reflected great credit on rhinology, and on Dr. Tilley in particular.

Dr. Powell congratulated Dr. Tilley on the most excellent results obtained. With regard to the cases that went wrong, and the dangers that had occurred after the operation, he had always been of the opinion that it was possibly due to too much interference with the posterior wall of the sinus. The posterior wall was generally scraped too much, and the interference gave rise to septic embolism and thrombosis. Perhaps Dr. Tilley would mention his views on this point.

Mr. Waggett asked to what extent the lining of the sinus was removed, whether to the bone or not?

Dr. Dundas Grant asked whether in operating freely through the floor of the sinus there was not great liability to damage the superior oblique muscle?

Dr. Lambert Lack wished to know if he was correct in understanding that Dr. Tilley did not open the sinus through the anterior wall. He thought there was almost if not quite as much danger in operating from the floor of the sinus as from the anterior wall. It was necessary to remove the anterior wall in a certain number of cases to obtain a proper view of the sinus; the danger resulted only in the cases in which proper drainage was not subsequently provided for. It was his (the speaker's) general procedure to detach the pulley of the superior oblique, but this had never given rise to diplopia.

Dr. Scanes Spicer asked if Dr. Tilley found he could explore every part of the sinus from the inferior wall?

Dr. Tilley, in reply, said that he always removed the anterior wall, but not the floor of the sinus, which was really the roof of the orbit, and which, he considered, it was wise to treat with a certain amount of respect. He thought it would be impossible to treat the sinus satisfactorily if the surgeon attempted to enter it from the floor, whereas, removal of the anterior wall gave free access to the cavity. The cases had not all been similarly treated, in the earliest cases he had used Luc's tube and sewn up the external wound at the close of the operation, but he thought such a method was extremely risky. If suppuration recurred, the inflammatory products were pent up under tension, because the drainage-tube was very liable to become blocked or not to drain efficiently,

and septic phlebitis of the diploic veins had occurred in at least seven recorded cases. This complication was almost certainly a fatal one, but it was an almost impossible one if packing or free drainage through the external wound and fronto-nasal canal was permitted. As to how much of the diseased mucous membrane was curetted away Dr. Herbert Tilley said he could not give a perfectly definite answer, he curetted until all granulation tissue and obviously diseased products were removed, but a certain thickness of lining membrane would be left. Temporary strabismus was not uncommon after the operation, but passed off within a week or fortnight as a rule; it was due to disturbance of the pulley of the superior oblique muscle during the operation and possibly to inflammatory exudation following the operation. In small sinuses, removal of the whole exterior wall produced an excellent result and obliteration of the cavity; in larger sinuses, especially in females, the surgeon would be guided by the size and conformation of the cavity as to the amount of the anterior wall he would remove.

#### **Case of Abnormal Pulsating Pharyngeal Vessel.**

Shown by Dr. Herbert Tilley. The patient is a girl *æt.* six years, suffering from enlarged tonsils and adenoids, complicated by the presence behind the right posterior pharyngeal pillar of a large pulsating vessel, possibly an abnormal ascending pharyngeal artery. He desired the experience of members as to the advisability of operating upon the tonsils and growths.

Mr. Spencer advised that the pharynx should be scraped. He saw no danger in the case; the carotid must be quite half an inch or so distant, and the pulsation was communicated.

Mr. Robinson thought it was as likely as not to be a large ascending pharyngeal artery; it was very difficult to say which it was. As far as operative measures were concerned, there was no need to fear any damage because of the position.

Dr. Scanes Spicer thought that the adenoids in this case might be safely removed—by an experienced operator. He added this because he had heard of two operations in which the pharyngeal aponeurosis was cut through, one case ending fatally from multiple abscess and septicemia.

#### **Specimen of Nasal Angio-Sarcoma, Shown at Last Meeting.**

Shown by Dr. Herbert Tilley. The specimen was prepared by Dr. Jobson Horne, who regarded it as an angio-sarcoma.



**Case of Esophageal Stricture Under Tubage for Twelve Months.**

Mr. Charters Symonds showed a man of sixty-three, who came to Guy's Hospital, February 24, 1899. The symptoms had existed for a year. The stricture admitted a No. 12, and was thirteen inches from the teeth. A four-inch tube was inserted. This was removed April 21, and left out. On April 24 he was admitted with complete obstruction. A long tube was passed and withdrawn May 1, when a short tube was inserted. May 28 the tube was removed and another (No. 13) introduced. Since then this tube has remained in position, a period of eight months, and is still useful. The man has maintained his weight, can attend to his business and has no discomfort. He takes finely minced meat besides fluids and eggs.

The points of interest are, the long duration—two years—of a stricture apparently malignant in this situation; the possibility that the case is one of sarcoma; the complete relief afforded by the tube; and the durability of the silk and tube. It may be added that the silk in the mouth is protected as usual by a piece of rubber tubing.

**Case of Extensive Necrosis following Nasal Polypi and Sinus Disease.**

Mr. Spencer exhibited a woman about forty, who, previously to being seen by him, had for many years suffered from polypi in the nose, and suppuration in the maxillary antrum and ethmoidal and frontal sinuses. Extension had taken place by the nasal duct causing purulent conjunctivitis, which had left a central corneal opacity. The maxillary antrum and the interior of the nose had been actively treated; also the front wall of the frontal sinus, including the upper margin of the orbit, had been removed. But there remained a long sinus extending backwards to beyond the anterior sphenoidal fissure, where dead bone was to be felt. Attempts to scrape away the dead bone in this position had been attended by profuse hemorrhage, and it seemed only too probable that the necrosis would continue.

**Case of Malignant Disease of Pharynx and Larynx.**

Shown by Mr. Macleod Yearsley. The patient, a woman æt. fifty-nine, had been suffering from "sore throat" for some two and a half years. Recently she had been getting worse and had considerable dysphagia. On laryngoscopic examination the disease was found to involve the lower and posterior part of the left tonsil, the base of the tongue, and the upper orifice of the larynx. There was no specific history, but the case had been placed upon anti-syphilitic treatment. The patient denied that she had been under any treat-

ment but that of her private doctor, but since her arrival at the meeting she had informed Mr. Yearsley that she had already been shown to the Society by Mr. Waggett.

#### **Case of Tonsillar Ulceration of Uncertain Origin.**

Shown by Dr. Dundas Grant. A female, *æt.* thirty-nine, came under my observation on the 22d March, 1900, complaining of sore throat and deafness. The former commenced five weeks before with considerable suddenness, with pain on the left side of the throat, extending to the left side of the head, face and the left ear. Her voice was extremely thick, and she complained of a tickling in the throat giving rise to cough and sickness; the pain in the throat was most marked during the swallowing of solids. On examination there was a considerable irregular swelling of the left tonsil, and round its outlines was an irregular sinuous, somewhat rough margin of an opalescent tinge tending to white; on the left tonsil there were irregular opalescent patches with slightly raised edges. On palpation the left tonsil was felt to be extremely hard. At the commencement she stated that there was a considerable enlargement of the glands at the left angle of the lower jaw, which lasted for about three weeks; just before she presented herself her voice became extremely hoarse, and the right side of the throat became painfully swollen. Her hair was falling to a notable extent for about a week before the throat manifestation, and continued to do so until mercurial preparations were administered. In November she was nursing what was described as a "premature baby," born at six months, and which only lived a fortnight; the child was much wasted, and suffered from erythema of the nates.

The physical aspect of the case suggested secondary specific affection of the mucous membrane, but the induration of the left tonsil had some of the characters of malignant disease. A provisional diagnosis was made, therefore, of primary infection of the left tonsil with secondary mucous patches of both. Mercurial pill with opium was ordered, and at the end of a week the patient announced herself as considerably better, although inspection of the fauces revealed little change.

#### **Case in which there was Difficulty in Removing a Tracheotomy Tube.**

Shown by Mr. Roughton. The patient was a girl, *æt.* five years, upon whom tracheotomy had been performed four months previously. There was now complete laryngeal obstruction, and the tube could not be dispensed with. He asked for suggestions as to treatment.

The President referred Mr. Roughton to a paper read before the Medical Society of London by Mr. Bernard Pitts, some four or five years ago,\* which dealt with intubation. It struck him at the time as giving serviceable methods for treatment.

Dr. Dundas Grant said he had just operated on such a case; the patient was a little girl of about four. He tried to introduce an intubation-tube, but it stuck absolutely. He then dissected down on the trachea, and worked upwards till he reached what was thought to be the level of the cricoid cartilage, where there was a narrow structure, through which it had been impossible to pass a bougie of greater size than No. 3. He then introduced the intubation-tube through the larynx and stitched up the whole wound. This was done on a Tuesday, and on the Friday following she was breathing through the tube, but there was great difficulty in taking it out—on doing so, dyspnea returned, so he again restored the tube, and was now awaiting further developments.

Dr. Davis said that obstructions occurred in the great majority of cases if adenoids were present. The child, judging from the enlarged glands, had big tonsils and so presumably adenoids. Adenoids should always be removed in every instance. Where this had been done he found that the tube could be taken out with ease.

Dr. Lambert Lack had shown a case to the Society at a previous meeting, in which intubation had been tried for a long time, and it worried the child's life out. The child could not swallow well with the tube in position, and therefore it had to be frequently removed and replaced. It was impossible to dilate any fibrous stricture unless the dilating instrument was kept in place for a long time. A tube or plug passing from the tracheotomy wound upwards into the larynx, or the T-shaped tube, was much more comfortable, and could be worn continuously. One case of laryngeal stricture after diphtheria was completely cured by this means. A solid plug was better than a tube, as it was easier to remove, and did not collect mucus.

Mr. Spencer thought an intubation-tube a source of trouble. It was necessary to remove the fibrous tissue and granulations. He would then insert a T-shaped cannula, made in two pieces for convenience of removal. The tube leading outwards could be blocked at will, so as to reaccustom the child to breathing through the larynx.

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\* The date of the paper was December, 1890.



**Laryngeal Case for Diagnosis.**

Dr. Scanes Spicer showed a lad who had two months ago exhibited a distinct small, sessile, papilloma about the center of the left cord, associated with multiple papillomata on the hands, arms and body. The application of a spray of salicylic acid in alcohol (5ss to ʒj) had been followed by the complete disappearance of the wart on the cord, but the hoarseness was not better, and on examination the ventricular bands were seen to be in a rough, reddened state; a thickened mass was seen on the inter-arytenoid part of the posterior wall, and the right cord did not move freely. As these latter appearances were not present two months ago, the question arose as to whether they were due to extension of the papillomatous growth, or were tubercular, or if they resulted from the irritation of the salicylic application. This had only been used three or four times, and had been discontinued for six weeks. He asked if other members had seen any similar results from application of salicylic acid in this region.

The President suggested that possibly the salicylic acid spray was responsible for the condition seen; the boy was suffering from hoarseness, and had small papillomata in the larynx. Certainly these when irritated might bring about such a chronic inflammatory condition. He advised leaving off the local treatment for the present, and in view of the warty growths on the hands, giving some arsenic, which had a wonderful power of clearing up warts on the skin; the larynx might be benefited by this treatment.

Mr. Spencer remarked upon the enlarged glands in the neck, especially the laryngeal. The sputa should be examined in view of possible tuberculous disease.

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## WESTERN OPHTHALMOLOGIC AND OTO-LARYNGOLOGIC ASSOCIATION.

### (OTO-LARYNGOLOGIC SECTION.)

The Western Ophthalmologic and Oto-Laryngologic Association held its fifth annual meeting at St. Louis on the 5th, 6th and 7th of April, 1900.

The president, Dr. W. Scheppegegrell, of New Orleans, opened the meeting with a paper on "The Rise of Specialism," in which he disapproved the oft-repeated charge that specialisms in medicine are modern innovations. He cited historical data dating several centuries before Christ, in which distinct references were made to specialists of the eye, stomach and the head. The essayist commended specialists in medicine, as they promote more detailed study and thereby lead to higher medical attainments.

#### **Slight Irregularities of the Nasal Septum**—EDWIN PYNCHON, M.D., CHICAGO, ILL.

In a perfect nose the septum divides the two passages into equal size, and at no point should opposing surfaces touch, even where the erectile portions of the turbinals are most congested. As the antrum half of the inferior turbinal is the most erectile of the nasal tissues, it is here that most room is required; therefore, this portion of the passage will appear equally roomy when the turbinal congestion subsides. There is no dispute among rhinologists as to the necessity of an operation when the lumen is noticeably diminished, but in slighter defects and deformities, opinion varies as to the necessity for operative procedures. The reader dwelt upon what he named "anterior soft hypertrophies" on the septum, which could be satisfactorily destroyed with the galvanocautery. Posterior white hypertrophies on either side of the septum required similar treatment. In looking into an obstructed nose, height and color is our first observation, caused chiefly by the friction by the to and fro passing currents of air which touch with more force any point of septal prominence, making it both dry and irritated. Another way a small growth may cause annoyance is by obstructing drainage, as a stone in a gutter, when the patient is lying with the affected side uppermost. The secretions are for a time retained and serve as fuel by a species of auto-infection.

The same may be said of any two opposing surfaces. In spite of the rhinologist's commandment, "Touch not a growth upon the septum which obstructeth not," from his understanding of the philosophy of nasal respiration, the writer was convinced that operation within reasonable bounds was the only rational practice for a rhinologist to follow as clinical experience has corroborated his theory. A prominence might not seem to obstruct in a warm room which would under slight congestion of the turbinal, if the prominence was well followed by the mobility of the *alæ nasi* further assisted in the obstruction; therefore, a simple prominence well forward was more harmful than a growth of smaller size further back. In such cases the stenosis is intermitting. No possible harm could come from operating on these slight irregularities, particularly as they are absent in cases of a perfect septum which is, as before stated, practically plane. As to the surgical treatment, it was wise to proceed to intranasal operations by a few days' medical treatment in the form of local applications in order to reduce hyperemia to the minimum. For the operation the knife, the saw or curette may be used singly or successively. When the thickening is low down near the floor, a saw curved on the flat can be used to better effect than a flat saw. Such a curved saw I have had made in pairs, a right and a left. Succeeding the operation daily treatments for about two weeks are of the utmost importance in order to obtain ideal results. At each treatment the wound is to be massaged with a cotton wound applicator which may be medicated with camphor-menthol twenty per cent or with a ten per cent solution of antinosine. The massage for the first two or three days should be gentle, but after that it should be energetically applied. Each massage should be preceded by a brief application of cocaine to minimize the discomfort.

#### DISCUSSION.

Dr. A. R. Amos, Des Moines, Iowa, thought the use of the burr and saw would necessarily destroy the mucous membrane and result in scar tissue which would cause annoyance. Therefore he would use caution in these operations. He preferred a straight canal and a simple operation on the turbinal which should be followed by scar tissue.

Dr. O. J. Stein, Chicago, thought Dr. Pyncheon an idealist and an enthusiast upon the subject. He, himself, preferred to occupy a middle ground and not be so radical as to attempt to correct all slight irregularities, or to ignore the fact that many of these slight conditions do cause sufficient disturbances to demand attention.



As the election of the site of operation he leaned toward the septum. He used the electric cautery but little. In the main he disregarded the mucous membrane in operating on the septum and did not experience ill results therefrom.

Dr. F. C. Ewing, St. Louis, emphasized his belief that there is just one rule by which we should work in considering such cases: a creation of the normal relationship between septum and turbinal. When he looked into a nose he did not mind the amount of breathing space left and if a reasonable passage was preserved, he did not consider a spur here or a ridge there. He was opposed to the cautery on the septum. He thought the tendency of specialism was to draw distinctions too fine where there were no ideal organs. When we find them necessary to existence, we might as well prepare to die. He thought Dr. Pyncheon's contention that a slight convexative might interfere with drainage when lighting on the well side was a case of drawing too fine a distinction. The normal mucus is evaporated and does not irritate. If so thick as to clog it would do so anyhow, so the comparison of a slight irregularity, acting like a stone in the gutter and preventing drainage, he thought was poorly rational.

Dr. M. A. Goldstein, St. Louis, thought there was a condition rife among special practitioners of an excess of operative enthusiasm, and unfortunately it was not abating. He did not consider slight irregularities of the septum as usually indicative of operative interference, and declared that more conservatory measures should be given consideration in nasal surgery. It should not be forgotten that injudicious operations on the septum with cautery and burr may be fraught with danger to the underlying structures. This was especially true of the cartilaginous septum and the associated poorly-nourished cartilage. He believed, with the previous speaker, that the lumen may be better increased by reduction of the adjacent thickened turbinal. The main indications of interference must be a growth or deflection sufficiently developed to cause obstruction in breathing or irritation by undue tension of the mucous membrane or interference with the normal drainage.

Dr. W. L. Ballenger, Chicago, thought operations on the septum should only be attempted with the end of overcoming the disturbances of the physiological functions of the nasal mucous membrane, and he thought that Dr. Pyncheon overlooked the tendency of nature to overcome abnormalities of function and anatomical development; for instance, the compensatory hypertrophy of the turbinal upon the concave side.

Dr. Pynchon, closing the discussion:

Dr. Goldstein, in advocating conservatism, advises against "excessive operative enthusiasm." My own experience with intranasal surgery has been so favorable that I can only reiterate the points made in my paper. Without the surgical steps what shall we do with those patients who have had an extended course of non-surgical treatment without lasting results? The indications for operation are either obstruction or the presence of slight septal projections which give evidence of irritation.

In reply to Dr. Amos, I will say that, with my method of operations on the septum, including the after-treatment suggested, I do get the ideal results which he desires. In my opinion scar tissue does result from cauterizations of the inferior turbinal. Of late years I rarely cauterize the anterior end of this body.

Dr. F. C. Ewing read a paper on

**Recurring Parotitis Persisting for Ten Years in a Healthy Child.**

The case, the writer's son, a boy eleven years old, had been subject to recurring attacks of parotitis, generally unilateral, since the second year of his birth. Family history good. Child otherwise healthy and considerably of an athlete. Attacks manifested themselves suddenly and subsided in a day or two without treatment. No attended enlargement of the lymphatic glands and no general disease complicating. A careful search of standard textbooks on surgery and medicine and magazine literature revealed no cases that could parallel this. Though not expressing a positive opinion, the reader is inclined to consider this a case of simple infectious disease of the duct of Steno (said duct being probably extra patulous) causing swelling of the gland by a microbe, the identity of which is unknown. In the *Journal de Med.*, Ed de Paris, January 1, 1896, Regnier regarded three cases of infection through Steno's duct, but with accompanying constitutional disease, and pointed out the fallacy of considering parotid inflammations invariably caused by secondary inflammation of the lymphatic glands. Chassaignac was the first to direct attention to this variety. He declared it to be canalicular. Virchow and Weber also observed cases where the pus and lesions were in the canals. The researches of Dupre and Claisse are confirmatory of this position. The supposition that the swelling was infectious was justified by the fact that the liver, kidneys and breasts may be affected by their secretory ducts.

Dr. M. A. Goldstein testified that he had seen the case, and acquiesced in the statement that the lymphatic glands were not enlarged. He would express no opinion as to the etiology.

M. A. Goldstein, M.D., St. Louis: Presentation of cases:

(a) **Primary Tuberculosis of the Ear**; (b) **Primary Tuberculosis of the Larynx**.

(a) *Primary Tuberculosis of the Ear*.—White, female, æt. thirty-two; history of mastoid fistula during childhood, the result of mastoid abscess which had not received prompt surgical attention.

When this case was first brought to my notice, in June, 1899, an early mastoid operation was indicated. The discharge had continued intermittently ever since the early mastoid invasion. During the last few months the discharge has been sanious and foul-smelling in character. The patient complained of acute, sharp pains in the area of the mastoid. Examination revealed much soft granulation tissue in the fundus of the external auditory canal, the canal wall somewhat sagging and the mastoid area showing beginning infiltration, and was extremely sensitive at the slightest pressure; marked rise in temperature.

On exposing the antrum by the Schwartze operation, this whole area was seen filled with unhealthy granulations and suspicious-looking cheesy detritus. This was carefully curetted as was also the granulation tissue, in the middle-ear cavity, and an unusually large opening was made in connecting the antrum with the tympanic cavity.

Examination of the cheesy deposit taken from the mastoid cells and antrum revealed the presence of tubercle bacilli, in some fields almost in pure culture.

A thorough physical examination of the patient failed to reveal the presence of any other tubercular lesion.

The wound began healing satisfactorily, but during the later stages of convalescence it was noticed that the granulations filling the site of the operation were unsatisfactory in character, and a stubborn, scant discharge was maintained. Unfavorable symptoms gradually developed, and in November, 1899, the radical operation was performed. The largest portion of the previously operated mastoid area appeared healthy and the granulations firm. Along the direct tract of the antrum and tympanic cavity, however, there were indications of reinfection. A radical curettement was made of the entire mastoid cell-structure, of the antrum and tympanic



cavity. One inch of the lateral sinus was exposed and found healthy; some of the deeper points in this large excavation which could not be readily reached by the small curette were touched with pure guaiacol.

The patient is now presented with the sinus nearly closed; discharge from the auditory canal has ceased; general condition constantly improving and with no secondary tubercular involvement apparent after repeated, careful physical examinations.

In the last operation the area of the Fallopian canal was likewise thoroughly curetted, regardless of its possible invasion, and there is still some facial paralysis, but this is now much less marked in character than shortly after the operation.

It may also be of interest to state that during the stage of this second convalescence the patient had an attack of erysipelas starting from a point close to the margin of the mastoid incision, and that improvement appeared much more marked after the erysipelas had subsided.

(b) *Primary Tuberculosis of the Larynx*.—This case is submitted not only because of its rarity as a case of primary tuberculosis of the larynx existing without other tubercular involvement for a period of four years, but also on account of the apparent difficulty in establishing the diagnosis.

The patient, white, male, æt. thirty-seven, gives no tubercular history. The only etiological factors which are considered of any consequence are: 1. The patient is an inveterate smoker, using from twenty to twenty-five cigars per day. 2. During the severe cyclone which visited St. Louis in May, 1896, the patient was exposed to a severe wetting and cold, and the aphonia now present dates from that time.

My observations of this case began in January, 1898. At the first consultation I found him confined to his bed, almost moribund, greatly emaciated, coughing excessively, complaining of intense pain, especially on deglutition and with complete aphonia.

Laryngeal examination revealed a characteristic turban-shaped epiglottis, mucous membrane greatly infiltrated, pale in color, and the lumen of the glottis narrowed to such an extent that it was absolutely impossible to examine the interior of the larynx or see the ventricular area. The arytenoid cartilages were also greatly infiltrated and thickened like the epiglottis.

The patient had been subjected to the influence of cocaine and morphine to such an extent that his nervous system was on the

border of collapse. The administration both of morphine and cocaine was checked, local applications of lactic acid (fifty per cent in glycerine) and guaiacol (twenty per cent in glycerine) were applied alternately, each being used for about one week daily. Internal administration of bovine and maltine were also used alternately for one week each. In about four weeks the patient was up and out, and in another four weeks he had gained ten or fifteen pounds. The pain had subsided for the greater part, the cough occurred less frequently and the paroxysms were much milder.

A microscopic examination of the sputum has been made almost weekly during the past year, and at no time has there been a trace of the presence of tubercle bacilli.

In the early treatment of this case, as soon as the patient was in a physical condition to stand it, he was placed on increasing doses of potassium iodide, with the possibility in view of the lesion in the larynx being syphilitic in character. No results observed.

In conclusion I desire to say, before submitting the case for your examination, that at no time has there been any evidence of ulceration as far as could be determined by laryngoscopic examination.

Owing to the special interest which centers about this case every possible feature of it has been taken into consideration. A number of our prominent diagnosticians have been invited from time to time to make a thorough examination, and no pulmonary lesion has been determined.

About two weeks prior to this meeting, Dr. Wm. Porter, of St. Louis, by my invitation, made another careful physical examination, and I believe the doctor is prepared to present the results of this last examination.

From the clinical history, from the repeated examinations, from the character of the symptoms, from the exclusion of the several other possible lesions of the larynx to which this case may bear some similarity, it is my belief that we have here a case of primary tuberculosis of the larynx. If this diagnosis is correct and can be substantiated, it is one of the rarest cases of primary tuberculosis in the annals of laryngology; a case of four years' standing, without any other tubercular involvement, with no indications of ulceration of the laryngeal structure and with the tendency of improvement.

#### DISCUSSION.

Dr. Wm. Scheppegegrell, of New Orleans, believed that the primary infection of the ear is rare, the origin of the disease being more

probably in the lymphoid tissues of the naso-pharynx. It had been demonstrated that a considerable portion of these examinations show tubercle bacilli and infection, therefore, is a very easy process. He thought tubercular diseases of the ear present much oftener than usually supposed, as a bacteriological examination is unfrequently made. The laryngeal case was also interesting. While presenting many of the cardinal symptoms of laryngeal tuberculosis, its long duration and improvement of the case from topical applications was opposed to the diagnosis. It reminded him of a case of perichondritis, seen some years ago, which had been treated for laryngeal tuberculosis, though many of the lesions of this disease were present. It appeared tubercular until there was a gradual protrusion of a necrosed arytenoid, upon the removal of which the patient made a complete recovery. Had this been tubercular it would not have recovered with this simple procedure. However, he believed that primary tuberculosis of the larynx does sometimes occur.

Dr. F. C. Ewing stated that he was present at both the operations on the mastoid. The first one was a good clean operation, but the case did not heal. Later, Dr. Goldstein did quite a radical operation without special consideration of the nerve or the usually regarded topography of the parts.

In connection with the laryngeal case he would mention that of a cornetist that he had treated successfully and what was also seen and diagnosed by the late Dr. Mulhall. Repeated examinations in this case failed to demonstrate the bacilli and neither he nor Dr. Mulhall found any evidences in the chest. The patient was given 30 grain doses of iodide of potash without result. Injections were then made of  $\frac{1}{8}$  grain corrosive sublimate without effect upon the ulcerated larynx. Later a more careful examination was made of the chest and one small crepitating spot was found which was confirmed when pointed out by Dr. Mulhall. The case got well under the usual hygienic treatment and applications of lactic acid and has continued so for four years. He weighed 127 pounds when he began, and now weighs 160. His voice which was almost gone is now slightly hoarse. The special point to be emphasized in this case is that the patient's position compelled him to blow the cornet daily, which undoubtedly produced a congestion of the throat and larynx, yet in spite of this congestion he recovered.

Dr. Wm. Porter, St. Louis: The case presented by Dr. Goldstein is a unique one. It has all of the laryngoscopic evidences of tubercular infiltration, while the clinical history and progress is opposed to it.



I believe this to be a case of slowly developing laryngeal tuberculosis; first, because of the appearance of the larynx; second, because of the condition of the patient; third, because of the recent increase of pain in the larynx and the sputum mixed with blood and, fourth, because there is now comparative dullness and prolonged respiratory murmur at the right pulmonary apex.

The appearance of the larynx with the thickened arytenoids, the infiltrated ventricular bands and the swollen and erect epiglottis form an almost characteristic laryngeal picture. The delay in development is unusual, but we have assured cases of latent tuberculosis in the glands and about the joints. The absence of bacilli from the sputum is not a negation of the tubercular hypothesis, for unless there is tissue necrosis they may not be thrown off.

The history that there was for a time an improvement under treatment is in harmony with the most modern thought. I well remember that when some years ago, I urged the possibility of the cure of laryngeal tuberculosis before the American Laryngological Association, the proposition had very little support. Now all of you know that some of these cases are within the range of relief and in rare instances of cure.

This case is one of those few instances in which the laryngeal invasion is in advance of the pulmonary in manifestation and possibly in point of time. The lung involvement is nearly always antecedent to the laryngeal. In 200 cases of laryngeal phthisis which I compiled for Sir Morell-Mackenzie recorded in his work on Diseases of the Throat there was not one of primary laryngeal disease, although there was thickening in every case, ulceration in twenty per cent and impaired vocal function in ninety-two per cent.

I believe with Heinze that "it is possible that tubercle may be first deposited in the larynx," but it is difficult to establish. I also believe that in recent years the skill of the laryngologist, the use of the curette and applications of lactic acid and local sedatives have done much to lessen the horrors of this very horrible complication.

**The Physiology of Voice Production**—WM. SCHEPPEGRELL, M.D.,  
New Orleans.

The most conspicuous difference between the voice in ordinary speech and the voice in song is in the greater range of the pitch in singing from that used in speaking. The average singer uses from one and a half to two octaves in his vocal efforts, and some well-known artists have reached tones above this range. In speaking,

on the other hand, there is usually not more than three semi-tones difference in pitch. This difference varies according to the individual speaker. Even in New Orleans, where the vivacious French element is conspicuous, I have frequently observed a difference in tone of a full octave in ordinary conversation. The difference of range in singing and in speech, therefore, is only one of degree.

The noticeable feature in singing is the measure which is present in the majority of vocal productions. Another point of importance in singing is the sustaining of the vowel sounds, this varying according to the expression, *motif*, etc.; but this prolongation of the vowel also exists in ordinary speech, especially observed in an expressive speaker. We know, therefore, that the actual differences in voice production in song and speech are of degree and not of kind.

The essayists offer the classification of the singing voice, namely: The soprano, mezzo-soprano, contralto, tenor, baritone and bass. The difference in these classes may be termed color or *timbre*. The *timbre* refers to that difference which we observe between the flute, flageolet or between any other two instruments in which the sound may be exactly of the same tone and intensity or between which we, nevertheless, note the different tune and the character of the sound-wave and not the rate or strength.

In respiration, the clavicular method of breathing is condemned. It is objectionable not only from a physical, but also from an artistic standpoint. The costal method of breathing does not admit of the same lung capacity as does the diaphragmatic form. The advantages of the diaphragmatic form of breathing have been so well recognized that it is now almost universally used by the professional singer.

Reference is also made to the recognized method of testing the chest capacity by insurance companies. A tape is passed around the chest walls and the candidate for insurance is directed to inflate the lungs, the supposed capacity depending upon the number of inches registered by the tape. Frequently a fictitiously large capacity may be shown by this method in lungs that were comparatively defective, and, on the contrary, a very low capacity in lungs which can really hold an unusually large quantity of air or in which the breathing is of the abdominal style.

Tone placing is a question in the consideration of the voice and the text-books refer to it but meagerly. The vocal cords of the larynx are compared to the tongues of the tuning-fork, and unless

the sound is reinforced there by some substance vibrating in unison with them or by the aid of some resonating cavity, they are but very indistinctly audible.

In the majority of singers whose voices have not been trained the larynx is used in the elevated position, so that the best effects of this reinforcement are not obtained. With the larynx in this position the voice usually looks strong and resonant, although in some cases there is a gain of a few number of tones; many of the baritones will sing the tenor scores and use the voice in this position. It is defective, however, and usually of a "throaty" character.

Tone placing should also be given consideration, of course, to a more limited extent, to the voice in speech, and it is of no little importance, especially in the case of teachers, lawyers and professional speakers where great demands are made on the vocal organs. It has been claimed, and not without reason; that continued speaking is more trying to the voice than the same amount of singing, owing to the fact that the same parts and muscles are brought more frequently into play and that a smaller range of voice is used in speaking.

The inability to correct many of these irregularities occasion many of the affections of the throat and explain many cases of failures in the field of vocal art.

#### DISCUSSION OF DR. WM. SCHEPPEGRELL'S PAPER.

Dr. M. A. Goldstein directed attention to the fact that schools and systems of vocal instruction were founded long before laryngology was a special science. These symptoms took into consideration the natural forces of voice production without reference to science or anatomy. Whole schools of singing are at variance with the physiology of this area, and the wear and tear of improper tone placing sometimes produces serious results. Neither the exclusive diaphragmatic breathing or the costal breathing are to be considered from the standpoint of the laryngologist as the physiologically proper method of breathing in voice production but rather a rational combination of the two. We should use our endeavors to influence teachers to incorporate a scientific consideration of the physiology of voice production and breathing in teaching.

Temperament and disposition frequently go hand in hand with the quality of the voice. So we see the alto voice accompanied by a manly predisposition in the woman and the tenor voice with effeminate qualifications in the male.



Dr. W. L. Ballenger wishes to elaborate one point made by the speaker, viz.: the "timbre" or color of the voice. The "timbre" depends upon the combinations of over-tone in a high-pipe organ. The basic vibration will move the column of air, breaking it up into long waves of definite length, these are again subdivided into still shorter waves. This subdivision goes on indefinitely until, as shown by the Helmholtz resonators, as many as thirty-four over-tones have been detected in a tone which to the human ear seemed to be a single rich musical tone. In order to get these over-tones in greatest numbers, the method of breathing and tone placement should be so conducted as to bring into action all the resonant chambers from the nose to the chest cavity. Only in this way will the "timbre" be maintained in all registers of the voice.

Dr. Wm. Porter: The address of Dr. Scheppegegrell is very timely. I have but little to add to it. Forced function is undoubtedly the cause of many cases of impaired tone and bad training is responsible for much of the unnatural and unpleasant vocal result that we often hear. I am glad that he called attention to the fact that voice should be classified as to quality rather than range, a mistake made by some of our best teachers.

The method of breathing should not be too arbitrary in every case. Each individual should be studied from the standpoint of figure and development. A singer with a long round chest may be trained in a somewhat different way from one who has a short flat chest. I believe that the so-called abdominal method of breathing may be used to the harmful exclusion of everything else. There are three factors in expiration, first, the elasticity of the intra-vesicular wall; second, the elasticity of the osseous and cartilaginous frame, and third, the contractility.

In the purely abdominal method with fixtures of the thoracic wall the second factor is lost. Moreover there is little use of the apex, which though small is important, not only from a health standpoint but as an addendum to the vital capacity of the lung. I teach that the best inspiratory effect is reached by lowering the diaphragm as far as is easily possible and then adding apex inflation until the whole lung shares in the reception of tidal air. The three factors in expulsion combine in the expiratory act, and if a prolonged, sustained note is desired, a final, forced contraction of the extraordinary muscles of expiration (acting mainly on the upper lobes) will add at least five per cent to the continuity of the outward current of air passing through the larynx. In the adoption of methods we must not forget our anatomy and physiology.

A curiosity of laryngeal function is the compensatory arytenoid movement. In a paper published a couple of years ago in the *N. Y. Med. Journ.*, I reported several cases in which the arytenoid of one side did not move to the median line on attempted phonation while the other one passed beyond and approximation was made at one side. In such cases if the tensor power and accuracy are unimpaired and there is no organic lesion of the cords the voice may be unchanged. One of the best known tenors on the American stage has a limitation of arytenoid movement of the left side of at least one-third.

**Symmetrical Osteoma of the Nose with Report of a Case—OTTO J. STEIN, M.D., Chicago, Ill.**

Report of a case of bilateral osteoma and review of the literature upon the subject. This paper appears in *THE LARYNGOSCOPE*, July, 1900, p. 27.

**The Physiologic Tests of the Organ of Hearing as Aids in the Differential Diagnosis of Lesions of the Ear—WM. L. BALLENGER, Chicago, Ill.**

The author advocated the physiologic tests of the ear, including the range of hearing, as tested with the tuning fork, Galton whistle, the Weber experiment, the Rinne experiment, the Schwabach and Bing tests, as important aids in the differential diagnosis of the lesions affecting the ear. They are of special importance in determining the location of the lesion. He suggested that in a general way the deeper the structure involved the more pronounced the disturbance of hearing and the less probability of a cure. The tests were therefore recommended more for the purpose of aiding the surgeon in giving a correct prognosis than for the purpose of aiding him in the treatment, which is often unsuccessful. Six cases were cited, illustrating lesions of different kinds in the middle ear and labyrinth, in which the tests were used for the purpose of differentiating them. He recommended that tests be made in all cases of ear disease in which there was marked deafness and tinnitus, both before and after the inflation of the tympanum. If this point is neglected the diagnosis may not be properly made. While the physiologic tests are not absolute guides to a correct diagnosis, they are, together with all other means of diagnosis, the most correct at the command of the aural surgeon, and therefore should be invariably used.

Dr. Pyncheon: I will take the privilege of suggesting one point to which the essayist made no reference as regards the application of the water test, and that is that the patient is often in

doubt and states that the sound is best heard in the good ear. In such cases I alternately stop the patient's ears, first one and then the other, and in this way soon dispel the patient's doubts, so he will afterwards reply when the Weber test is being made.

**The Etiology of Malignant Tumors**—C. ZIEM, M.D., Warsaw, Poland.

Paper read by title. This paper will be published in a subsequent issue of THE LARYNGOSCOPE.

**Report of a Case of Mixo-Fibroma of the Naso-Pharynx**—HAL FOSTER, M.D., Kansas City, Mo.

This paper appears in THE LARYNGOSCOPE, July, 1900, page 33.

**Presentation of Specimen of 107 Polypi Removed at one Sitting**—H. W. LOEB, M.D., St. Louis:

This case was unique, not so much on account of the great number of polypi removed from the nose as from the fact that they were removed at a single sitting. They were uniformly pedunculated and varied greatly in size.

**Removal of the Middle Turbinate for the Cure of Some Forms of Inveterate Eye Disease**—J. O. STILLSON, M.D., Indianapolis.

The author read a very interesting paper upon this subject, in which he reported his observations as to the relationship of nasal and eye diseases and the results he had obtained in allaying eye symptoms by the treatment of nasal conditions, more especially the removal of the turbinate.

Dr. Goldstein, as Chairman of the local Committee of Arrangements, arranged for a museum of pathologic and anatomic specimens which while large, was extremely interesting and marks a new departure in this society.

**Decalcified Head Sections**—R. J. TERRY, M.D., St. Louis. (Specimens presented by invitation.)

By far the leading feature of the museum of specimens arranged for this meeting were the series of excellent preparations of decalcified head sections, as prepared by Dr. R. J. Terry, of St. Louis.

The sections exhibited at this meeting were made by decalcifying the heads in weak acid, using a knife instead of a saw for cutting the sections.



The details of preparing sections by this method, as originated by Dr. Terry, will be published at a later date. At present the method has been employed for a production of rather thick sections (about one-half inch), especially useful for teaching purposes. It is believed, however, that this process will be of most value when sections can be cut thin enough to be used in preparing "re-constructions of a region."

The heads shown at this meeting had been hardened before decalcification was begun. The soft parts are not damaged by the decalcifying fluid and the sections will stand considerable rough handling.

It was the universal comment that these specimens were the most interesting and well executed sections of head preparations as yet seen.

The officers elected for the ensuing year were as follows:

Dr. M. A. Goldstein, St. Louis, President.

Dr. Würdemann, St. Paul, First Vice-President.

Dr. C. R. Holmes, Cincinnati, Second Vice-President.

Dr. Fayette C. Ewing, St. Louis, Third Vice-President.

Dr. W. L. Dayton, Lincoln, Neb., Treasurer.

Dr. Wm. L. Ballenger, Chicago, Secretary.

Dr. C. R. Holmes, was made Chairman of the Committee of Arrangements for the meeting to be held next year in Cincinnati.

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### AMERICAN OTOLOGICAL SOCIETY.

The Sixteenth Annual Meeting of the American Otological Society was held at Washington, D. C., May 1, 2 and 3, 1900, in connection with the Fifth Triennial Session of the Congress of American Physicians and Surgeons.

THE LARYNGOSCOPE is pleased to publish herewith, carefully prepared abstracts of the papers presented at this meeting, as arranged by the authors themselves.

Dr. HERMAN KNAPP, New York, after demonstration of some anatomical specimens, related a case of

#### **Extensive Acute Caries of the Mastoid and Petrous Portions of the Temporal Bone,**

on which he operated successfully with restoration of perfect hearing, and preservation of the external ear canal and the tympanic cavity.

He sums up the noteworthy features of the case as follows:

1. In an acute tympano-mastoid suppuration in a healthy man, of thirty years of age, who never had had ear trouble before, the tympanum, drumhead and hearing power were restored, while the destruction went on in the mastoid and the adjacent third of a petrous portion of the temporal bone, under formation of an outer fistula of the mastoid.

2. Headache and the continuance of the mastoid disease determined the patient to give his consent to an operation which he had formerly refused.

3. The operation, consisting in a total resection of the mastoid, exposing the dura in the posterior cranial fossa, scooping away all the carious bone in the basal portion of the petrous, and carving out with a sharp spoon the bony wall of the facial canal in its whole length through the mastoid, further the entire horizontal semi-circular canal, forming a platform from the latter to the frontal semi-circular canal, where the caries stopped.

4. The complete and unusually rapid recovery, with integrity of the sound-conducting apparatus, and restoration of perfect hearing. [Operation January 15, 1900; discharged from hospital February 1st; wound closed February 16th; March 1st, h.  $\frac{6}{24}$ , v.  $\frac{20}{20}$ .]

### **Chronic Ear Vertigo; Its Mechanism and Surgical Treatment**

—C. H. BURNETT, M.D., Philadelphia.

Dr. C. H. Burnett maintains that chronic ear vertigo (Menière's symptoms) is chronologically the latest symptom, or lesion of chronic catarrhal otitis media, being always preceded by profound deafness and tinnitus. It is due to undue impaction of the stapes in the oval window, as well as to stiffening of the round window membrane, from the catarrhal condition of the drum cavity. In a normal ear any inward pressure of the stapes upon the labyrinth fluid is compensated by a corresponding outward movement of the membrane of the round window toward the tympanic cavity. Any undue pressure from within the labyrinth by influx of perilymph or endolymph from the cranial cavity is compensated by a corresponding outward movement of the stapes, as well as, of the round window membrane toward the drum cavity. All or any of these compensations being interfered with, intralabyrinth pressure is increased, the ampullar nerves unduly compressed, and reflex phenomena evoked which are termed ear vertigo. As these altered conditions of intralabyrinth pressure are not constant, but vary with the health of the patient and the state of the drum cavity, chronic

ear vertigo is paroxysmal in nature. As retraction of the chain of ossicles and consequent impaction of the stapes in the oval window, in chronic catarrh of the middle ear play the greatest part in the production of these vertiginous phenomena, Burnett proposes to liberate the stapes from the superposed incus by removal of the latter, through an incision in the upper posterior quadrant of the membrana tympani of the etherized patient. This he has done in twenty-seven cases, giving entire relief from vertigo, in every instance.

**Clinical Anatomy of the Eustachian Tube**—B. A. RANDALL, M.D.,  
Philadelphia.

Dr. Randall spoke of rediscoveries as to Eustachian catheterization as showing need of better appreciation of the known anatomy. Among all the variables of aural topography the position of the tube-mouths may be counted a constant, since it is essentially related to bony structures of fairly unvarying configuration; and the claims of variation are generally with reference to unrelated nasal and pharyngeal points, instead of to the back edge of the hard palate, which is the true landmark. The lumen of the tube is a slit, usually collapsed and devoid of the "safety tube" at its inner third, while a valve-like fold in its bifurcated lower part serves with the drag of the relaxed palate to insure its closure except in the act of swallowing. Slight variations are to be expected in all points of aural anatomy, but those of the tube having real clinical importance will be very rarely found.

**Clinical History of "A Fatal Case of Septic Sinus Thrombosis."**

By HIRAM WOODS, JR., M.D., Baltimore, Md.

Patient, a boy thirteen years old. Family history of tuberculosis. Measles, when he was two years old, followed by right otorrhea, which has persisted with occasional intervals ever since. Apparently he has never had careful treatment. About the 2d of October, 1899, after a paroxysm of right earache, had a chill, followed by fever. This was repeated each day till October 5th, when the family physician was summoned, who sent patient to the reporter. On admission the boy was in great pain. Temperature 101.6°, pulse 106. There was diffuse mastoid tenderness, the aural canal was filled with a polyp, while the general appearance of the boy was sepsis. He had a septic rigor shortly after admission. Save for these constitutional symptoms of sepsis, there were no indications of sinus involvement. Locally the case presented the picture of internal mastoiditis only. Operation was performed next day.



Mastoid process was eliminated. The polypus above mentioned sprung from a small area of necrotic bone. The inner wall of the mastoid covering sinus was soft. Bone was removed, exposing the sinus for a space of an inch and a half. Dura was necrotic while the external sinus wall was ulcerated, the lumen being plugged above and below by a yellowish fibrinous clot. This was removed with curette, and good blood currents obtained in each direction. Sinus was closed with plain gauze. On the two succeeding evenings there was an elevation of temperature, but no chill. Then, without characteristic change in the thermal line, there developed in the course of ten days a painful swelling in the neck along the inner border of the sterno-mastoid muscle. A large amount of pus was evacuated from the jugular canal, the vein being found collapsed. After this the temperature line became septic. Metastatic abscess developed in different parts of the body. Death occurred on November 11th. General streptococcus infection was found on autopsy, together with a septic thrombus closing the clavicular end of the jugular.

The paper discussed the general question of ligation of the jugular in cases of septic thrombosis where on operation good blood currents are obtained, and there are no symptoms of jugular involvement.

**A Case of Chronic Purulent Otitis Media followed by an Abscess in the Temporo-Sphenoidal Lobe and also an Abscess in the Cerebellum—GORHAM BACON, M.D., New York.**

The patient, Mrs. A. P., thirty-two years old, had suffered at times from a chronic purulent otitis media (right) since childhood, although of late years it had given her no trouble except that the hearing was defective. For one month past she has complained of severe pain in the right ear and pains in the head. Three days before I saw her the discharge recommenced.

For two weeks she has been confined to her bed, and nine days ago she had two chills on the same day, followed by nausea and vomiting.

As the pain in her head and ear was severe, the family physician prescribed opiates, and when I first saw her at the infirmary on February 13, 1900, she was very stupid and under the influence of the morphine.

Temperature  $100\frac{4}{5}^{\circ}\text{F.}$ , pulse 80, respiration 20. Right external auditory canal full of pus and but little left of the drumhead.

Under ether the usual mastoid operation was performed and pus, offensive in character, granulations and softened bone were removed. No opening could be detected in the tympanic roof, and as

it was difficult to make a diagnosis of an intracranial complication, owing to the admission of morphine, any further operative interference was postponed, February 18th. The pain has continued. To-day she has paralysis of left abducens; paralysis of left side of face; slight left hemiparesis; moderate left hemianesthesia; left hemianopsia and choked discs.

*Diagnosis.*—Abscess in right temporo-sphenoidal lobe.

*Second Operation.*—Original wound reopened and the incision carried upwards so that the bone could be thoroughly cut away for a considerable area above the exterior meatus. Dura found thickened but not adherent to the tympanic roof. A small sinus found in the dura and a large abscess located in the right temporo-sphenoidal lobe. About two or three ounces of foul-smelling pus evacuated.

For several days after the operation the patient seemed to improve, but later the paralysis became more marked—also the choked discs. Patient very restless and continually cried out, and a diagnosis was made of probable lepto-meningitis. Patient lived till March 3d.

*Autopsy.*—The temporo-sphenoidal lobe presented a large abscess cavity passing well back. It had been well drained. The base of brain showed nothing of especial interest. Abscess found in right lobe of cerebellum. Pus foul-smelling and very thick. It appeared to have begun in the dentate body which it destroyed. It then passed across to the opposite lobe which it invaded to the extent of half an inch. The ventricles were found normal. No communication could be demonstrated between these two abscess cavities.

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## ABSTRACTS AND BIBLIOGRAPHY.

Arranged and Edited by  
**FAYETTE C. EWING, M.D., St. Louis,**  
with the collaboration of the  
**EDITORIAL STAFF.**

It is our purpose to furnish in this Department a complete and reliable review of the world's current literature of Rhinology, Laryngology and Otology.  
Authors noting an omission of their papers will confer a favor by informing the Editor

### I. NOSE.

**The Nasal Vestibule as the Seat of Disease—MAXIMILIAN BRESGEN—***Bresgen's Sammlung*, January 15, 1900.

The soft flexible portion of the nose is the one under consideration, and the structure of various portions of its lining is given.

The diseases of the region are of course largely dependent upon those affecting tissues higher up. However, the peculiar cutaneous structure of the lining of this portion of the nose sometimes brings about a condition that does not obtain elsewhere in the nasal cavity. Little cracks and fissures may form which in consequence of acute colds may become covered with crusts. In children the cutaneous irritation may spread until the upper lip and even the cheek are similarly affected. The author considers this condition as peculiarly liable to bring about a lupus, for the reason that the moist and irritated surface is a good harbor for tubercle bacilli. He thinks he has seen cases of lupus that arose in just this way. The same condition of course also offers an open gateway to the germs of erysipelas.

In connection with furuncle of the nasal vestibule Garré is cited. This writer produced a furunculosis by simply rubbing pus cocci into the uninjured hairy skin. Inasmuch as the lining of the vestibule is provided with numerous hairs, the author thinks that this experiment of Garré's is continually repeated by patients endeavoring to rub out the last vestige of thickened secretion from the tip of the nose.

VITUM.

**Hemorrhage Into the Conjunctival Sac Through the Nasal Duct, Following an Operation for the Removal of a Nasal Spur—**  
W. F. CLEVINGER—*Med. and Surg. Monitor*, February, 1900.

Rare case of hemorrhage into the conjunctival sac through the lachrymal duct. A young lady suffered for years from partial closure of the left nostril, occasioned by medium-sized spur on the septum, which extended from the anterior of the triangular cartilage past the anterior end of the middle turbinate. Operation



was done with little hemorrhage owing to the use of suprarenal solution. That night hemorrhage occurred upon the nose and corresponding eye. An extended investigation reveals no similar case except the two in the October number of *THE LARYNGOSCOPE* reported by Dr. Chiari (*Wiener Klin. Wochenschr.*, No. 28, 1899). These cases occurred after the nostril had been plugged with Belloc's cannula on account of epistaxis. The blood forced its way out through the duct. The author believes that an abnormally large tear duct was a factor in his case. F. C. E.

**On the Close Relation between the Nasal and Cranial Cavities and some of the Dangers of Such Relationship—**WILLIAM C.

KRAUSS—*Charlotte Med. Journ.*, January, 1900.

Nasal obstruction in children may retard their cranial development, and the influence of adenoids on mental development is well recognized. Meningitis is not infrequently due to infection from the nasal chambers. SCHEPPEGRELL.

**A Case of Carcinoma of the Nasal Passages—**J. L. GOODALE—

*Journ. Am. Med. Assn.*, February 3, 1900.

The patient was a man fifty-one years old. He had had nasal polypi frequently removed for the past thirty-three years. After removing what appeared to be ordinary polypi, a pale, red mass, the size of an almond, was found springing from the region of the infundibulum. The mass was removed with the cold snare. The microscope showed it to be carcinoma. Death occurred fifteen months after the first indications of malignancy. ANDREWS.

**Report of a Case of Echinococcus Cyst of the Nose—**W. K.

ROGERS—*Journ. Am. Med. Assn.*, February 3, 1900.

Two years after the removal of what appeared to be an ordinary polypus, another growth occurred at the same spot. In removing it with the snare it ruptured and a considerable quantity of straw-colored fluid escaped. Microscopic examination of the cyst walls showed numerous echinococcus hooklets. No evidence could be found of intestinal parasites. ANDREWS.

**Removal of One Hundred and Seven Polypi at One Sitting—**H.

W. LOEB—*St. Louis Courier of Med.*, Jan., 1900.

The patient had many polypi on each side of the nose, and on account of an orbital cellulitis, it was deemed advisable to remove them at once. With his electro-cautery snare Loeb removed sixty-eight from the left and fifty-nine from the right fossa—107 in all. It required three-quarters of an hour to remove them, and during that time the patient lost only one ounce of blood. The case is reported to call attention to the ease with which the operation may be done with the electro-cautery snare, the author claiming that with the cold snare the number could not have been removed at one sitting. Though objections have been urged against the electro-cautery snare on the ground that it is necessary to renew the steel wires often, the author used only four in the operation. EATON.

## II. MOUTH AND NASO-PHARYNX.

### Two Cases of Infectious Phlegmonous Inflammation of the Base of the Tongue as a Consequence of Angina Tonsillaris Lingualis—BAYER—*Bresgen's Sammlung*, Band IV, No. 2.

The title largely covers the points of interest. Both subjects were gouty. In one an abscess formed and broke while the other passed off without a definite abscess, but was followed by an attack of gout.

VITTUM.

### Some of the Causes and Effects of Mouth Breathing—J. M. INGERSOLL—*Buffalo Med. Journ.*, January, 1900.

E. D. LEDERMAN.

### Nose and Throat Clinic of the Presbyterian Eye, Ear and Throat Charity Hospital, Baltimore, July 18, 1899—*Journ. Eye, Ear and Throat Diseases*, Vol. iv, No. 3, July, 1899.

Six cases are reported. None are of special interest.

EATON.

### The Minor Surgery of the Nose and Throat—GEO. L. RICHARDS—*Internat. Journ. of Surg.*, October, 1899.

This article is designed to explain some of the simpler operations in the nose and throat to the general practitioner. The procedure discussed embraces the galvano and chemical cautery, removal of polypi, medication of atrophic rhinitis, opening of peritonsillar abscess and plugging for nose-bleed.

F. C. E.

### Chronic Non-Suppurative Catarrhal Otitis—JOHNSON ELIOT—*Va. Med. Semi-Monthly*, March 9, 1900.

The report of a number of cases in which massage of the ossicles combined with hot-air inflations gave beneficial results.

SCHEPPEGRELL.

### Surgery of the Turbinated Bones—J. A. STUCKY—*Louisville Monthly Journ. of Med. and Surg.*, March, 1900.

A review of the anatomy and physiology of the surgeon and a description of the surgical technique.

SCHEPPEGRELL.

### A Case of Diphtheric Sore of the Lower Lip with Secondary Infection of the Throat—JNO. R. ROSE—*Ga. Journ. of Med. and Surg.*, February, 1900.

Infection was due to moistening the thumb with the lower lip while distributing mail, the lip being at the same time much chapped. Both the lesion on the lip and the secondary infection of the throat resisted treatment until anti-diphtheric serum was administered. There is no reference to a bacteriological examination.

SCHEPPEGRELL.

**An Epidemic of Follicular Tonsillitis and its Period of Incubation**—F. SIEGERT—*Münchener Med. Wochenschr.*, No. 47.

During a strictly neighborhood epidemic of this character the author was enabled to watch carefully the course of the disease from one house to another, and to note the time which intervened between exposure and the first symptoms.

His conclusion is that the period of incubation for follicular tonsillitis is four days. The final paragraph of his paper is as follows: "Follicular tonsillitis is an infectious disease with a period of incubation of four days, and is easily communicated from the patient to a healthy person. Nursing infants and children up to the third year seem less disposed to acquire the disease than older persons, but are not exempt. The isolation of those suffering from sore throat should be carried out to the best of our ability, on account of the frequent septic and pyemic complications. Brothers and sisters of the patients should be kept from school until the expiration of the fifth day."

VITTUM.

**The Influence of Nasal Diseases on Facial Expression**—R. KAYSER—*Bresgen's Sammlung*, January 15, 1900.

A consideration of the different forms of the nose and of the external changes wrought by disease. The author is of the opinion that platyrrhinia is the form of nose best suited to the development of ozena.

VITTUM.

**Pemphigus of the Mucous Membrane as a Cause of Adhesion of the Soft Palate to the Posterior Pharyngeal Wall, and the Treatment of this Condition with Hard Rubber Bougies**—GEORG AVELLIS—*Münchener Med. Wochenschr.*, March 6.

The author could find only three cases of this condition recorded in literature and to these he now adds a fourth. The cause of the adhesion was at first obscure, but during his observation of the case he was successful in discovering some fresh vesicles, so that the diagnosis of pemphigus was firmly established. A very small passage existed between the pharynx and naso-pharynx, barely large enough to admit a small probe, but wholly inadequate to breathing purposes or to permit sufficient air to enter so that the patient could blow his nose.

The adhesions were incised on each side so that a bougie the size of the thumb could pass. A number of Hegar's hard rubber bougies of various sizes were then bent into the shape of the letter S. The size used was the one which could just be forced through the opening. It was then pushed up until the lower curve rested just over the lower incisor teeth, thus exerting a constant dragging effect on the palate.

This was done by the patient six to ten times daily for four months. Various other devices were tried, but none seemed so efficacious as this. The result has been satisfactory. Avellis refers to three cases of narrowing of the aditus and laryngem which have been reported as having the same origin.

VITTUM.



### III. ACCESSORY SINUSES.

**The Modern Treatment of Dental Cysts and Empyema of the Antrum** — SACHS — *Münchener Med. Wochenschr.*, February 13, 1900.

At a meeting of the Medical Society of Leipzig, held December 19, Sachs read a paper on the above subject. After giving *in extenso* the etiology of the dental cyst, he comes to speak of those cases where the cyst wall breaks through the floor of the antrum and fills that cavity completely, sometimes breaking through the partition between the antrum and the nasal cavity and emptying into the latter. The diagnosis is established by the character of the discharge. In treating these cases the author advises that under local anesthesia a good-sized piece of the cyst and the gum be removed with Cooper's scissors and the cyst washed out. The only care is that the opening shall not close too soon. He says that even the tooth whose root is the seat of the cyst need not be extracted provided that its condition is such as to permit of a good firm filling of the nerve canal. In regard to the opening of the antrum by Küster's method, the author proposes a modification of his own devising which he thinks will overcome the tendency to too rapid closure of the opening. VITUM.

**A Case of Empyema of the Frontal Sinus**—F. T. ROGERS—*Journ. Eye, Ear and Throat Dis.*, March-April, 1900.

A woman, aged forty, had suffered several years after an operation upon the nose, with severe frontal headache. There was swelling of the left upper lid, and pressure over the inner canthus exceedingly painful. Large masses of polypoid growth were removed from the left nasal fossa, and finally the left frontal sinus was opened with chisel and mallet and found filled with polypi and offensive pus. The cavity was curetted and a large free opening made into the nose.

The patient apparently recovered, but soon the pain returned, this time on the right side, and the right sinus was curetted in the same way, but suppuration continued for a month when the probe revealed extensive denudation of the periosteum extending over a considerable portion of the frontal bone. A large sequestrum was found and removed exposing the superior longitudinal sinus for nearly two inches, and the dura over a space extending from the median line to the middle of the frontal eminence on the right side. Recovery was uneventful. EATON.

## IV. LARYNX AND TRACHEA.

**Primary Epithelioma of the Trachœa**—E. BOSCHI—*Bollettino Delle Scienze Mediche di Bologna*, Ser. VII, Vol. XI, 1900.

The author gives the following interesting clinical history: In a man, aged sixty, examination of the sputum showed only the presence of red blood corpuscles and leucocytes. The examination of the thorax and larynx was negative. He developed signs of tracheal stenosis, and died of broncho-pneumonia. In the latter period two facts were constantly noticed—a slight descending pulsation of the larynx, and an intense pulsation of the larynx and trachea laterally from left to right.

The post-mortem was limited only to the thoracic cavity and showed the presence of a tumor in the inferior half of the trachea, the tumor having compressed the trachea from the bifurcation to five centimeters above.

The tumor was found to be a cylindrical epithelioma. This rare and very interesting case shows that the symptom of "tugging" insisted on by Oliver and Cardarelli cannot be looked upon as pathognomonic of aneurism of the arch of the aorta.

FERRERI. (StClair Thomson, Trans.)

**Tuberculosis of the Larynx**—S. G. DABNEY—*Am. Pract. and News*, January 1, 1900.

Tuberculosis of the larynx before any manifest involvement of the lungs is not a great rarity. In many cases the diagnosis can be made almost positively from the local appearances alone. The prognosis, while exceedingly grave, is not so desperate as was formerly taught. In addition to the medicinal, hygienic and climatic treatment, local measures often do much to increase comfort and prolong life, and occasionally cure the local lesion. The first step in local treatment is to thoroughly cleanse the surface, for which Seiler's solution in an atomizer is fairly effective.

Where there is ulceration, the cleansing should be followed by insufflation of orthoform and iodoform or nosophen. If pain persists, five per cent solution of eucaine B should be sprayed into the larynx before eating. A ten to twenty per cent solution of menthol in oil may also be used with benefit. Where the ulcer is accessible and the conditions permit, lactic acid should be rubbed into it, either with or without previous curettage.

SCHEPPEGRELL.

**Angina with Endocarditis**—ROEGER—*Münchener Med. Wochenschr.*, February 20, 1900.

The author found a murmur to be present in about 25% of the cases of angina of all sorts except those accompanied by an exanthem and the diphtheritic forms. In about half of these the murmur persisted seven to thirty days after the angina had disappeared. In a little over half the cases where a murmur was discovered, there appeared a herpetic eruption on the tonsils, the buccal mucous membrane and the soft palate.

VITTM.

## V. EAR.

**Report of a Case of Brain and Other Abscesses, Following Tonsillar Abscess and Non-Perforative Suppurative Otitis Media**—D. MILTON GREENE—*Journ. Am. Med. Assn.*, November 11, 1899.

The most interesting feature of this case is the peripheral symptoms caused by the central pathology. At one time in the course of the disease the patient was able to say but the one word "No." The author believes there was disturbance of the "utterance center," of Broadbent. Paralysis of the entire right side of face, body and extremities occurred. A large abscess was found two inches above the auditory meatus. After operation speech gradually returned and the paralysis fully recovered.

ANDREWS.

**Four Cases of Cerebellar Abscess**—B. ALEX. RANDALL—*Journ. Am. Med. Assn.*, November 11, 1899.

The first case was that of a boy, fifteen years old, with chronic suppurative otitis media. Directly following a slap on the ear mastoid symptoms developed. In the mastoid operation no cranial sinus could be found, but the autopsy showed a small cerebellar abscess, and destruction of lung tissue. The route of cranial infection was not discovered. In the second case there had been extensive destruction of bone between the mastoid and the cranial cavity. Two weeks later cranial symptoms developed, and in a second operation, while enlarging the cranial opening backward, the rongeur bit off the large mastoid emissary close to the sigmoid sinus. The operation was abandoned because of hemorrhage. Death, four days later, was evidently caused by a cerebellar abscess. The author believes he should not have attempted to enlarge the cranial opening, but should have made an additional opening. The third case was typical and recovered. In the fourth case a large cerebellar abscess was found and evacuated, but the patient died suddenly a few hours after the operation.

ANDREWS.

**Infective Sinus Thrombosis**—FRED WHITING—*Journ. Am. Med. Assn.*, October 28, 1899.

The local and systemic conditions found in sinus thrombosis constitute three stages:

1. The thrombus, composed of fibrin, red blood corpuscles, exfoliated endothelium, leucocytes and protoplasmic cells, has not undergone degeneration, and the systemic symptoms, pyrexia and rigors are insignificant.

2. The thrombus has undergone degeneration with the resulting systemic absorption, characterized by rigors and pronounced septico-pyemic fluctuations of temperature.

3. The thrombus disintegrating with systemic absorption accompanied by rigors, rapid and great fluctuations of temperature, and central or peripheral embolic metastases, terminating usually in septic pneumonia, enteritis, or meningitis.

ANDREWS.



## VI. DIPHTHERIA, THYROID GLAND, ESOPHAGUS, ETC.

### Early Intubation in Laryngeal Diphtheria—WILLIAM E. LOWER

—*The Cleveland Med. Gaz.*, January 1, 1900.

The author states that in no small per cent of the fatal cases, the death is due to suffocation from laryngeal obstruction, when intubation is not practiced, or to broncho-pneumonia following late intubation.

The advantages claimed in favor of early intubation are: The child is stronger, can bear the operation better, the time for wearing the tube is lessened, there is less opportunity for the introduction of septic material into the trachea, and consequently of septic or broncho-pneumonia, which is nearly always the cause of death.

In all cases of diphtheria serum treatment should be practiced, and the earlier the better.

The indication then for intubation is the very beginning of laryngeal obstruction.

A. K. MACLEAN.

### Strictures of the Esophagus with a Device for their Dilatation

—TUCKERMAN—(Society Proceedings, December 7, 1899), *The Cleveland Med. Gaz.*, January, 1900.

A. K. MACLEAN.

### Some Ocular and Aural Manifestations of Hysteria—H. GIFFORD

—*Western Med. Review*, November 15, 1899.

The author reports three cases of aural manifestations of hysteria, two of which are of great interest, but he questions the hysterical nature of the other case.

A girl of eighteen years was found to be totally deaf to all tests, though the ears were objectively normal. The hearing was suddenly lost after an attack of tonsillitis, of which the girl had frequent attacks. It was reported that the "throat broke" and the girl fainted. When consciousness returned the hearing was gone.

Another attack of tonsillitis occurred in a few days, with a reported "breaking of the throat," and the hearing returned, suggestion arising from pain in the ears due to tonsillitis doubtless caused the hysterical deafness. A man of twenty-four years, whose ears appeared practically normal, reported a total loss of hearing after soreness and severe pain in the ears. The deafness continued about four years, in which period he was treated with pilocarpin without good results, at the end of that time he was treated by a woman magnetic healer with a complete cure. The man had frequently amused himself by appearing to be deaf. When the ears became painful and the hearing slightly impaired, suggestion of retribution probably induced the hysteria.

D. W. DETWILER.

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## ORIGINAL COMMUNICATIONS.

(Original communications are received with the understanding  
that they are contributed exclusively to THE LARYNGOSCOPE.)

### THE PHYSIOLOGY OF VOICE PRODUCTION.\*

BY W. SCHEPPEGRELL, A.M., M.D., NEW ORLEANS.

In giving my views on this subject, I will pass over that portion of the physiology of the voice which is described in the text-books and which is familiar to all, but will limit myself to those points which are little, or not at all, referred to in these works, and which, moreover, have been the subject of animated and not always satisfactory discussions.

I have frequently been asked by singers, teachers and others, in what manner the voice in ordinary speech differs from the voice in song. Many persons have the most erroneous views on this subject, some believing that there is some special adaptation of the vocal organs in singing, and others going so far as to believe that certain parts of the voice organs are used for speech and others for singing.

In order to understand this matter more fully, let us consider in what respect physically song differs from speech. Perhaps the most conspicuous difference is in the greater range of the pitch in singing from that used in speaking. The average singer uses from one and a half to two octaves in his vocal efforts and many of the well-known artists have several tones above this range. In speaking, on the other hand, the same tone is also not adhered to, as this would give a monotonous character to the voice, and, while this difference is frequently not more than three semitones, it is easily observed, on

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\* Read before the Fifth Annual Meeting of the Western Ophthalmologic and Otolaryngologic Association, at St. Louis, April 5, 1900.

close attention, not only in oratorical efforts, but also in ordinary conversation. This difference varies according to the individual speaker and even with the nationality. In New Orleans where the vivacious French element is conspicuous in the social circles, I have frequently observed a difference in tone of a full octave in ordinary conversation. We see, therefore, that the difference of range in singing and in speech is one only of degree.

The next most noticeable feature in singing is the measure which is present in the majority, although not in all, vocal productions. Not only has the singer a certain amount of license in the use of this measure, but we have the rhythmical periods in poetry, so that again the difference is one of degree and not of kind. Another conspicuous point in singing is the sustaining of the vowel sounds, this varying according to the expression, *motif* and other circumstances; but this prolongation of the vowel also exists in ordinary speech as one can easily observe, especially in an expressive speaker.

From these illustrations we see, therefore, that the most conspicuous points of apparent difference in voice production in song and speech are closely related; that the difference, in fact, is one of degree and not of kind.

Before discussing the important question of technique in voice production, let us consider for a moment the classes into which singers are commonly divided: the soprano, mezzo-soprano, contralto, tenor, baritone and bass. It is generally believed that the difference in these classes depends entirely upon their range of tone, this being so common an error that many of the professors of music class the voice according to this distinction alone; in fact this method of classifying the voice was in vogue until recently even in some of our best-known conservatories. That this is erroneous is indicated by the fact that it is not unusual to have a bass with the range of the baritone, and a mezzo who can sing all the soprano parts. Madame Fierens, who was a conspicuous artist in the last season of the French Opera at New Orleans, although belonging to the class of the mezzo-soprano, sang all the soprano parts with facility, and Bouxman, the bass, of equal reputation, easily sang the G of the baritone. A tenor of international reputation sang no higher than G and yet deservedly won an enviable reputation for himself with this limited range.

The distinction between these classes is one to which the English, for want of a better name, have applied a term borrowed from optics, *color*, the French using a much more expressive term, *timbre*. The word *quality*, which is sometimes used, is inappropriate because



it is more frequently applied to the good or bad qualities of the singer's voice. The timbre refers to that difference which we observe between the flute and the flageolet, or between any two other instruments in which the sound may be of exactly the same tone and intensity, but between which we nevertheless note a difference due to the character of the sound wave, and not their rate or strength.

The importance of this distinction in the classification of the voice is not one of simple theoretical value. Its recognition will prevent, for instance, the mistake frequently made by the teacher who informs his pupil that she has a mezzo voice, but that he will give her a soprano; that another has a bass and he will teach him to become a baritone, such attempts not only being unsuccessful but frequently inflicting permanent injury on the voice.

The peculiarities of the various languages in voice production is a most inviting subject which presents many features for discussion, but which I shall be compelled to omit, owing to the limitations of time.

In regard to the technique of voice production, the method of respiration plays a most important part. It has been the subject of long arguments in favor of one method or another, and, while there is more unanimity on this subject than has been the case in former years, still the matter is not yet settled to the satisfaction of all concerned.

The three important methods of breathing which have been described are the clavicular, the lateral or costal, and the diaphragmatic or abdominal. It is, of course, understood that the respiration is not entirely limited to one of these three classes, but the distinctions are useful as indicating the method which is the most conspicuous and to which is attached the most importance in the respiratory efforts.

The clavicular method of breathing was at one time very popular among a certain class of French singers and in some parts of Germany, but did not receive much favor in England or America. In this method the upper part of the chest, the clavicular region, made the most conspicuous respiratory efforts. It is objectionable not only from a physical standpoint, but also for artistic reasons, as the artificial raising of the chest and shoulders is extremely disagreeable to one who desires the æsthetic in music as well as in other arts. It is disadvantageous from a scientific and common-sense standpoint, as it produces the least result with the greatest effort, and is fortunately but little in vogue to-day. It is by no means obsolete, however.

The lateral or costal method of breathing has much more in its favor and is still practiced extensively. Comparing it with the diaphragmatic method of breathing, it has been found, on careful examination, that the lung capacity is not as great in this as in the diaphragmatic breathing. It can be shown that when the lungs have been fully inflated by means of the lateral method, a considerable percentage may be added to the air volume by using the diaphragmatic form of breathing. This is an important consideration, as the artistic singer uses his voice as the violinist his bow, and the longer and more sweeping these efforts are, the less the muscular strain and the better the effect. Another objection to this method of breathing, which applies more directly to the singer than to the speaker, is one that affects the timbre of the voice. You will easily understand that if the singer gives a certain note with the chest wall fully dilated and continuing his phrase until the volume of air has almost been expended, again sings the same note, that there will be a dissimilarity due to the difference of resonance between the fully distended chest walls and the same contracted, this effecting the homologous character of the voice, which is of elementary importance in artistic singing.

The abdominal and diaphragmatic method of breathing are here used synonymously, because both sets of muscles are brought into use at the same time, thus bringing into play a greater strength in the voice production. The chest walls, although not entirely fixed, are but little moved and in an elastic condition, the diaphragm giving a continued pressure of air to which the abdominal muscles add steadiness and power. The advantage of this method has been so well recognized that it is now almost universally used by the professional singer.

While speaking on the subject of respiration, it may not be inadvertent to refer to the recognized method of testing the chest capacity as practiced by the insurance examiner. A tape is passed around the chest wall and the candidate for insurance is directed to inflate the lungs, the supposed capacity depending upon the number of inches registered by the tape. I have frequently seen a fictitiously large capacity shown by this method in lungs that were comparatively defective, and, on the contrary, a very low capacity in lungs which can really inhale an unusually large quantity of air, but in which the breathing was of the abdominal style. In my own case, for instance, the number of inches shown by the tape would be extremely small, while the actual lung capacity is considerably above the average, this being due to the fact that the diaphragmatic method of breathing is almost entirely used.

While the text-books on the physiology of the voice give full detail as to the position and movements of the vocal cords, the epiglottis, etc., in voice production, the question of the "placing of the voice," as it is called, or, more properly, the adjustment of the larynx in vocal production, is rarely referred to although it is a subject of paramount importance, especially to the singer. If we take a tuning fork and set it in vibration by striking it against some substance, the sound is heard but very indistinctly, whereas, if we apply it after it has been set in vibration to a piece of wood or other resilient substance, the sound is so distinct that it may be heard by every one in the room. In what way do these experiments differ one from another? I made use of the same original impulse to set the tuning fork in vibration in both instances and added no new energy in applying it to the wood, and yet the results are so dissimilar. The reason is simply that the vibrations of the tuning fork have been re-enforced by the vibrations set up in the substance to which it was applied, and these, together with the original vibrations of the tuning fork, have given rise to the sound which is heard so distinctly. A great difference exists in this re-enforcement according to the acoustic resiliency of the substance to which the tuning fork is applied, but the analysis of this subject would lead me too far from the original object of this communication, so I will dismiss it with the simple mention of the fact.

The vocal cords of the larynx represent the tongues of the tuning fork and unless the sound is re-enforced, either by some substance vibrating in unison with them, or by aid of some resonant cavity, they are but very indistinctly audible. Naturally, the extreme condition in which there is no re-enforcement does not exist in the larynx, but there is a wide distinction between this point and the full resonance exhibited in the cultivated voice of the good singer.

In the majority of singers, whose voices have not been trained, the larynx is used in the elevated position, so that the best effects of this re-enforcement are not obtained. The voice has a softer quality, but usually lacks strength and resonance, although in some cases there is a gain of a few upper tones; many of the baritones who sing the tenor scores use the voice in this position. It is defective, however, usually of a throaty character, and is easily detected by one familiar with the correct technique of singing. Exceptional cases have been known, especially in England and Italy, in which the so-called natural singers have used the voice, and with success, in this position, but the result is gained even in



these cases by an uncalled-for exertion on the part of the singer who does not gain the full benefit of the energy applied.

As shown by the tuning fork, a slight impact, with the assistance of resonance, gives forth a more distinct sound than one in which a much greater impact is used without this. In the properly adjusted larynx, in which the full benefit of re-enforcement is obtained, a comparatively slight effort gives a far better result than a much greater effort without this. Not only is it a question of conservation of energy, but when the voice is improperly placed, the undue strain results in irritation and afterwards in inflammation, so that, unless the faulty method is corrected, the voice may be seriously affected and even permanently injured.

What I have already stated refers more especially to the singing voice from which successful results can be obtained only when the parts are in good condition and properly used, but it applies, although to a more limited extent, to the voice in speech. In this the proper placing of the voice is of no little importance, especially in the case of teachers, lawyers and professional speakers, who, like the singers, make great demand on the vocal organs. In fact it has been claimed, and not without reason, that continued speaking is more trying to the voice than the same amount of singing, owing to the fact that instead of applying the varied range of which the singer makes use, a much smaller compass is used and the same parts and muscles are brought more frequently into play.

The incorrect placing of the speaking voice usually takes place about the time of puberty when the voice changes almost an octave in the youth, but much less in the girl, so that this fault is more frequently observed in the male. When this change of voice is about to take place, the lad is like an unanchored ship, not knowing where to locate his voice. He usually ends by placing his voice in about the same tone, as far as his larynx will permit, as his father or other adult with whom he is much associated. In this way we frequently observe the resemblance of voices in the same family. If, however, the adult has his voice badly placed, the probability is that the child will do likewise. The father may be engaged in an occupation where the voice, especially for loud speaking, is not much used, so that he has but little irritation from its faulty use. The child, however, may eventually become a clergyman or a lawyer and he then feels the effect of what is usually called a weak voice, although he may really possess naturally a strong voice, but badly adjusted.

The speaking voice should be placed as low as the voice will permit, so that it can be used without undue strain of the muscles of the vocal cords and accessory muscles, at the same time not being so low as to prevent changes in the inflections of the voice in giving expression to speech. Very frequently it is placed several tones above this, so that the constant strain from speaking places the subject in the same position as one who has ametropic vision and who feels the constant strain unless assistance is given by glasses. Fortunately, in this case, the correction is a more natural one and the error being recognized and the subject placed under the care of one who understands the correct principles of elocution and the proper placing of the voice, the fault may be entirely corrected. Many cases of the so-called "clergyman's sore throat," chronic laryngitis and other irritation of the throat are due to this, and, unless the cause is removed, recurrences will naturally be frequent until eventually the voice may be permanently injured.

The considerations which have been here pointed out are important alike to the physician who treats the vocal organs, and the clergyman, lawyer or other vocalist who makes use of them. Modern therapeutics have become more scientific in recent years and one of its maxims is that in the treatment the cause, if possible, or where recognizable, should be removed. The neglect or inability to correct the irregularities which I have here pointed out has been the cause of many affections of the throat and explains many cases of failures in the field of art. I have seen no small number of artists, clergymen and others, in which the effect of the faulty use of the voice has developed conditions in the throat so pronounced that a complete cure was no longer a possibility, all of which might have been avoided had the first physician who saw the case recognized the faulty placing of the voice as an etiological factor in such cases.

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## AURICULAR CATAPHORESIS.

BY PROF. GHERRARDO FERRERI, ROME, ITALY.

The inefficacy is but too well known, of all the means that special therapy has heretofore brought forward, to overcome or moderate tinnitus sounds, and it is as well known how very intense and persistent such noises are at times, so much so as to make life almost intolerable.

Among the most recent that I know of, galvanic cataphoresis failed, and for that reason I instituted in the clinic with which I am associated a series of experiments distinct from the attempts that have hitherto been made. Knowing well that skepticism accompanied those attempts, especially because there were some to suggest in every case that the little beneficial effect was due perhaps more to the electric action than to the drug naturally, I have resolved that this doubt should not be an obstacle in my experiments.

In otology cataphoresis was attempted solely to obtain the anesthesia of the auditory meatus and of the tympanic membrane for minor bloody operations of these regions (opening of furuncles, cure for dermatosis, paracentesis, etc.), and those who sustained it, as Masini and others, affirmed that its anesthetic action was more rapid, more pronounced and more persistent.

Masini also tried cataphoresis in otalgia, observing that a solution of 5 to 10 per cent of cocaine with a very weak current applied for five minutes was sufficient to stop it. He also obtained anesthetic effect with morphine, but in a lesser degree.

*Apropos* of cataphoresis, Scheppegrell says that this method, so seldom used in auricular diseases, offers without doubt a big field for new studies regarding the possibility of cure for some chronic morbid states of the ear that have resisted ordinary methods. In fact, Cogney, of London, wanted to try cataphoresis in deafness of labyrinth origin, using iodine and potassium iodide.

From otologic literature one learns that some acknowledge the passage, through the tissues, of a remedy under the action of the continued current, while others deny it. However, those who have recorded favorable experiments have been so inexplicit in the matter of detail that one finds it difficult to repeat the attempts in analogous conditions. In the records that I have read, either I have not found the given reports, or I have found them incomplete, with regard:



First, to the intensity of the current; second, to the duration of the experiment; third, to the application of the poles. Besides, the doubt remains as to whether the relative degree of anesthesia obtained should be ascribed to the action of the current or to that of the medicament. This doubt is so much more legitimate since the innervation of the mucous membrane as well as the capacity of absorption has need yet of more demonstrative study. I myself have often doubted the anesthetic action on the membrane of cocaine introduced through the auditory meatus, having always seen the patients jump at the slightest touch of the myringotome.

After noting the uncertainties and doubt associated with cataphoresis, I took up the study again, and here faithfully report the results obtained.

I used the battery of chloride of silver of Dr. Pincus, of Königsberg, the principal value of which is constancy, and the very energetic chemical effect. The battery is constructed of ten elements and develops a current of 5 *milliamperes*.

The change of direction of the course of the electricity is obtained by means of a commutator. The medicaments are introduced, first, in the shape of ordinary little ophthalmic disks, applied by means of a sound, directly to the tympanic membrane.

One after the other the same medicaments were introduced in aqueous solution of sufficient quantity to fill up the auditory meatus.

With the purpose of being able to obtain positive evidence of the absorption, such substances were used that manifested, with pupillar reaction, their presence in circuit, namely:

#### MYOTICS.

Sulphate of eserine.....	gr. 0.02
Boiled water .....	gr. 10.00
Hydrochlorate of pilocarpine.....	gr. 0.10
Boiled water.....	gr. 10.00

As excipient, instead of water, non-acidified oil could be used, in which, however, base alkaloid, and not salt alkaloid, must be dissolved.

## MYDRIATICS.

Sulphate of hyoscyamine.....	gr. 0.01
Boiled water.....	gr. 10.00
Hydrochlorate of scopolamine .....	gr. 0.01
Boiled water.....	gr. 12.00
Sulphate of atropine .....	gr. 0.03
Boiled water .....	gr. 10.00
Sulphate of duboisine.....	gr. 0.04
Boiled water.....	gr. 10.00
Hydrobromate of amatropine.....	gr. 0.05
Boiled water.....	gr. 10.00
Hydrochlorate of ephedrine .....	gr. 0.50
Boiled water.....	gr. 10.00
Hydrochlorate of cocaine.....	gr. 0.20
Boiled water.....	gr. 10.00

Here, too, non-acidified oil, in which base alkaloid is dissolved, could be used as excipient.

At first the negative pole, covered with felt, was introduced into the meatus, applying the positive to the corresponding mastoid process; the duration of the current was one hour. On the other hand, in a second series of experiments, the poles were changed and the results were closely observed, since the action of the current upon a salt determines the precipitation of the alkaloid upon the positive pole and the development of the acid upon the negative pole.

The results obtained were negative; no reaction; neither the mydriatics nor the myotics entered in circuit. Because of the doubt that the current could have sensibly changed the physiological property of the medicaments, the control *in vitro* was made, making the same current act for an hour on the solutions, which were then instilled into the ear. They accordingly gave the reaction.

Following these results I thought it better to circumscribe the action of the current, and I tried to force the negative pole, constructed from a mandrin of steel, isolated through a fine catheter, into the tube, not varying the system already adopted for application of the medicines, but the effects were not different from those already obtained; on the contrary, it was found inconvenient, as the patients after five minutes could not tolerate the current any longer and were

seized with violent otalgia. Lastly, on account of the doubt that the obstacle to the penetration of the drugs might be the epidermic covering of the mucous membrane, I had recourse to individuals in whom the membrane had been destroyed, completely or in part, without, however, trace of suppuration during the process. And in these different conditions of the subjects, I repeated the experiments without the introduction of the catheter into the tube. Yet, in this manner, I could not observe either mydriatic or myotic reaction.

In conclusion, the various experiments referred to have not demonstrated that, under the action of an electric current, the medicaments applied (either in solution or in gelatine disks) to the tympanic membrane and to the mucous membrane of the cavity are absorbed. The results demonstrate that auricular therapy cannot count galvanic cataphoresis among its efficacious resources. My experiments, entirely negative because of the lively action of the current, give cause for less faith in those preparations heretofore considered efficacious, because of a special action in the treatment of the cavity through the tube; however, granted that the current exerts no action, I cannot explain how the effect of some medicaments, introduced into the middle ear, failed, and yet remained a long time in contact with the mucous membrane.

Therefore the experiments of cataphoretic action have made me doubt the efficacy of some intra-tympanic injections. At first it may seem of little importance; on the contrary, it has a signification that merits consideration, as there appears also a suspicion that in certain given lesions absorption may not occur because of altered structure of the mucous membrane, which has lost the property of absorption.

Certainly my experiments do not justify absolute conclusions, but from them can be deduced the necessity of better controlling a good part of intra-tympanic therapy and of studying more profoundly that which concerns the modifications encountered in the tissues of the ear in certain lesions.

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## THE PHYSIOLOGIC TESTS AS AIDS TO THE DIFFERENTIAL DIAGNOSIS OF LESIONS OF THE EAR WHICH PRODUCE DEAFNESS AND TINNITUS.\*

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If we begin with the most external portion of the ear, and proceed inward to the labyrinth, taking the anatomical parts in series from the auricle to the external meatus, from the external meatus to the drumhead, from the drumhead to the mucous membrane lining the tympanic cavity and Eustachian tube, from the mucous membrane to the ossicular chain, from the ossicles to the fenestra ovalis and fenestra rotunda, and from the windows to the labyrinth, we will have a classification of the lesions of the ear which produce deafness and tinnitus that is easy to remember and that is logical from an anatomic, physiologic, pathologic and clinical standpoint. The amount of deafness and tinnitus is usually in proportion to the nearness of the lesion to the labyrinth. Thus, affections of the auricle produce but slight disturbances of the ear, cerumen and furuncles in the external meatus but little more, perforations or other lesions of the drumhead some more, catarrhal inflammation in the mucosa of the tube and tympanum still more, while ankylosis of the ossicles and foot-plate of the stapes produce marked disturbances of hearing. Finally, profound deafness and tinnitus result from hemorrhage into the labyrinth. In this brief discussion we will follow the above classification because of its simplicity and logical arrangement.

*Lesions of the Auricle.*—Swelling of the auricle, especially of the concha, as a result of frost bite or other irritation, is attended by slight deafness. The removal of the ear by traumatism or as a result of disease does not affect the hearing to any marked degree. The diagnosis of deafness from these conditions need not be discussed in this paper, as the lesion is so apparent.

*Lesions or Obstruction to the External Meatus.*—The presence of dermatitis, eczema, furuncles, etc., may readily be diagnosed by ocular inspection, the slight deafness present, the positive Weber sign in the affected ear and the absence of the usual signs of middle ear and labyrinthine disease.

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\* Read before the Fifth Annual Meeting of the Western Ophthalmologic and Oto Laryngologic Association, at St. Louis, April 5, 1900.

*Lesions of the Drumhead.*—It has been proven experimentally that if a small ball of wax is attached to the drumhead the vibrations of the ossicular chain are less interfered with than they are when the ball of wax is attached to one of the ossicles. Clinically we know that perforation, cicatrices and calcarious deposits are attended by much less disturbance of hearing than ankylosis and adhesions of the ossicles. It has also been demonstrated that when the ball of wax is attached to either the drumhead or the ossicles there is a greater interference with the vibrations in low tones than in high ones. This corresponds with clinical observations also, as it is well known that in lesions of the conduction apparatus the power to hear tones of the lower register is impaired or entirely lost.

*Lesions of the Mucosa.*—The diagnosis of diseased states of the tympanic and tubal mucous membrane depends somewhat upon the appearance of the drumhead and the degree and character of the permeability of the Eustachian tube. The most interesting question which presents itself to the surgeon is whether the disease process is limited to the mucosa or involves the deeper structures, as the articulation of the ossicles, the insertion of the foot plate of the stapes, or whether the inflammatory process has gone on to the production of adhesive bands which bind the ossicles to one another or to the tympanic wall and drumhead. In simple catarrhal inflammation the deafness and tinnitus are comparatively slight and transitional in character, while in ankylosis and sclerosis they are quite pronounced. Paracusis Willisiana is a very certain sign of ankylosis or sclerosis of the mucosa. Further discussion of this part of the subject will be deferred until we take up the consideration of adhesions and ankylosis.

*Lesions of the Tympanic Muscles.*—Weakness of the tensor tympani and stapedius muscles may result from inflammatory degeneration or from interference with their action by sclerotic adhesions. Their innervation may be deficient on account of a general systemic dyscrasia or from a local lesion of the nervous supply. As they regulate the tension of the drumhead and the intra-labyrinthine fluid their tonicity is essential to good hearing. They have also been described as presiding over the "focusing" power of the ear; that is, by their aid the ear is enabled to select from a multitude of voices the voice which the hearer desires to hear.

The focusing power may be tested by having the patient stop one ear and then approach him with a watch until he hears it tick-

ing. After this distance is determined by successive approaches, he should be tested by receding with the watch and noting if he is able to hear it at a greater distance than when approached. A normal ear will hear it several inches further from the ear after the ticking is once perceived. If the muscles are weakened from any cause the tick will not be heard at a greater distance as the watch is withdrawn from the ear. The selective power may also be determined by having two or more instruments playing in the room at the same time. If the muscles are unimpaired the instruments may be heard in turn at the will of the hearer. If, however, they are impaired, only a confusion of noises will be heard.

*Lesions Affecting the Mobility of the Ossicles.*—This division of the subject carries us into the midst of one of the most interesting and difficult fields of differential diagnosis coming within the scope of the otologist. It is here that the physiologic tests of hearing are of the most value, and which at the same time are the despair of many who attempt to use them. Some authorities condemn them as having but slight or doubtful value, while others regard them of such value that they recommend their use in every case of deafness. It has been my custom for several years to systematically test every case of deafness and tinnitus, both in private and clinical practice. My convictions are based upon this experience and will be briefly and incompletely expressed in this paper, especially in the consideration of lesions affecting the mobility of the ossicles. A differentiation is of value, not so much on account of the treatment as of the prognosis. Patients present themselves with marked diminution of hearing and harassing subjective noises, and it becomes the sacred duty of the aurist to give them a correct opinion as to the probability of cure or improvement they may expect from a course of treatment. It is not enough for the aurist to tell them that such cases are sometimes benefited by treatment while others are not, and that only a course of treatment covering several weeks or months will determine the curability of those seeking advice. Such an opinion is not worth the consultation fee usually asked, and is certainly beneath the standard which may be attained by all conscientious and intelligent aural surgeons.

Preliminary to the consideration of this subject we will state some of the principles which underlie the physiologic tests of the organ of hearing:

**First Principle.**—In the normal ear the tuning fork is heard by air conduction about twice as long as by bone conduction. Bone conduction is very much diminished after the fifty-fifth year of age.



Second Principle.—In lesions of the conduction apparatus the duration and intensity of hearing by bone conduction are increased.

Third Principle.—In lesions of the perception apparatus the duration and intensity of hearing by bone conduction are diminished or entirely lost.

Fourth Principle.—In lesions of the conduction apparatus hearing for low tones (infrequent vibrations) is diminished or lost.

Fifth Principle.—In lesions of the perception apparatus hearing for high tones (frequent vibrations) is lost.

It having been determined experimentally that foreign bodies attached to the drumhead and ossicles interfere with the vibrations for tones of the lower register we can readily understand why ankylosis or adhesive bands interfere with the hearing for low tones, while the hearing for high tones is not affected. It is not so easy, however, to understand why bone conduction is increased. Various ingenious theories have been advanced in explanation of this phenomenon, but none of them seem adequate; nor is it more easy to explain the loss of bone conduction in labyrinthine disease.

To facilitate the discussion, we will take the physiologic records of a few cases and attempt to arrive at a differential diagnosis.

*Case I.* Range of hearing:  $\begin{matrix} R-256^v-40,000^v \\ L-16^v-40,000^v \end{matrix}$  Weber + R.

Rinné:  $\begin{matrix} R-5'' \\ L+15'' \end{matrix}$  Sch.  $\begin{matrix} R \text{ bone } 25'', \text{ air } 0'' \\ L \text{ bone } 15'', \text{ air } 30'' \end{matrix}$ .

The right ear shows a loss of hearing for tones lower than 256 vibrations per second and an increase in bone conduction, both of which signs point to disease of the conduction apparatus. The left ear gives the normal physiologic tests. This case illustrates a simple catarrhal otitis media with deafness and tinnitus as the chief subjective symptoms.

*Case II.*—Deafness and tinnitus in the left ear.

Range of hearing:  $\begin{matrix} R \ 16^v-40,000^v \\ L \ 16^v-40,000^v \end{matrix}$  Weber + R.

Rinné:  $\begin{matrix} R+5'' \\ L+ \end{matrix}$  No bone conduction.

This case illustrates what may be called "Apparent" labyrinthine disease, or what is more popularly known as nerve deafness. The patient is quite deaf in the left ear and bone conduction is entirely lost on that side, and the Weber test shows plus bone conduction for the right. Thus far all signs point to laby-

rinthine disease. The range of hearing by air conduction, however, shows high tones are heard in the affected left ear. This contra-indicates nerve deafness, as high tones should be lost. Shall we despair of arriving at a diagnosis because of this apparent contradiction, or shall we go further with the investigation and see if there is not a way out of the difficulty? My record shows the following interesting experiment: "After inflation of the tympanic cavities by catheterization, Rinné R+10, L+10." In other words, bone conduction is restored to the left ear and hearing has returned to near the normal. What inference should be drawn from the physiologic experiments made on this case? Simply this: there was extreme retraction of the drumhead, which forced the foot plate of the stapes against the labyrinthine fluid, thereby greatly increasing its tension. This irritation resulted in so modifying the physiologic response to the stimulation of the vibrating fork placed against the mastoid that bone conduction was lost. Inflation relieved the intra-tympanic pressure and bone conduction was instantly restored. This case was referred to me as one of Menière's disease, although there was no history of sudden and total loss of hearing. Nausea, vomiting and a staggering gait were present during the times when deafness was most pronounced. These symptoms were also relieved by the inflation.

*Case III.*—Progressive deafness in both ears. Greater deafness in the right.

Range of hearing: R 512<sup>v</sup> to 10,000<sup>v</sup> Weber + L.  
L 128<sup>v</sup> to 40,000<sup>v</sup>

Rinné: R+15" Sch. R bone 3", air 18".  
L+ 5" L bone 20", air 25".

In this case there is a loss of both high and low tones in the right ear. Weber's experiment shows bone conduction best in the left or better ear, while it is almost nothing in the right. In this case there is nearly uniform evidence of involvement of the labyrinth of the right ear. The only contradiction is the loss of hearing for low tones. This may be explained by the fact that there is disease of the middle ear as well as of the labyrinth. The labyrinthine disease predominates, however. Inflation of the tympanum is not followed by relief of the deafness. The history of the case shows a long-continued catarrhal process in the right ear which has passed on into the sclerotic type. Adhesive bands have formed and the ossicles are firmly bound by them to the tympanic wall and to each other. I have no doubt the bony tissues of the con-

tiguous parts have undergone the same changes and thus involved the labyrinth. It is in sclerosis of the middle ear that we are most apt to find more or less severe impairment of the labyrinthine functions.

*Case IV.*—Marked deafness and tinnitus in the left ear. Eighteen years ago this patient had acute suppurative otitis media. There were occasional discharges for five or six years. There has been no discharge within the last twelve years.

Range of hearing:  $\begin{matrix} R & 16^v-40,000^v \\ L & 256^v-20,000^v \end{matrix}$  Weber + L.

Rinné:  $\begin{matrix} R+15'' \\ L-8'' \end{matrix}$  Sch.  $\begin{matrix} R & \text{air } 32'', \text{ bone } 18'' \\ L & \text{air } 20'', \text{ bone } 28'' \end{matrix}$

Inflation does not relieve either the deafness or tinnitus. This case shows deafness with bone conduction increased in the affected ear and a minus Rinné and loss of low tones in the same ear, all of which point to disease of the conduction apparatus, rather than of the labyrinth. The question for consideration in this case is, what part of the conduction apparatus is at fault? We may readily exclude the auricle and external meatus, as the deafness is too profound to have its origin there. Lesion of the drumhead may likewise be excluded for the same reason. It must be located in either the mucosa of the tympanic cavity or Eustachian tube, the ossicles or the windows of the labyrinth. If it is limited to the mucosa, inflation will improve the results shown in the Rinné experiment and overcome the deafness to a marked degree. This does not occur, hence we must consider the ossicles and labyrinthine windows as the probable seat of the lesion. When the air is exhausted in the external meatus with a Siegle's otoscope, the handle of the malleus remains fixed in its retracted and rotated position, while portions of the drumhead bulge outward. Fibrous bands may be seen crossing the inner surface of the drumhead. Bing's experiment shows hearing better through the Eustachian catheter than through the external auditory meatus, hence the oval window is not affected. The lesion must then be located in the ossicular chain. Had the hearing been better through the external auditory meatus than through the catheter, we should have concluded that the lesion was in the oval window.

*Case V.*—Patient, age seventy years. Hearing almost normal. Bone conduction almost lost. A student referred this case to me as one of nerve deafness. He based his diagnosis upon the greatly



diminished bone conduction, quite unmindful of the fact that the gentleman was not deaf at all. The diminished bone conduction is due to age of the patient and not to intrinsic ear disease.

*Lesions Affecting the Labyrinth.*— I have already referred to slight lesions of the labyrinth from the extension of pathologic processes from the middle ear. There remains one general group of labyrinthine lesions to which I wish to direct your attention, namely, lesions attended by complete and sudden deafness, vertigo, nausea and vomiting. This group of symptoms is known as Menière's disease. I refer to it for the purpose of illustrating the significance of total loss of bone conduction.

*Case VI.*—This patient came under my care about two months ago complaining of sudden deafness in the left ear. The right was similarly affected two years ago. Two months ago he became suddenly deaf and was affected by nausea and vomiting for twenty-four hours. The staggering gait, at first pronounced, has almost disappeared. He is still bothered with it somewhat in walking when he attempts to look to either side. So long as he fixes his eyes in front his gait is unaffected. Bone conduction is entirely lost in both ears. Can hear very loud conversation close to the ear affected two years ago. Can only hear loud noises in the left ear. When tuning fork giving 256 vibrations is caused to forcibly vibrate, he hears it faintly with his left ear. High tones are entirely lost. This is undoubtedly a genuine case of Menière's disease and affords a fine illustration of the total loss of bone conduction.

I have purposely avoided extensive reference to the general symptomatology of the foregoing cases, in order that we might limit our discussion to the value of the physiologic tests or experiments, as aids in the differential diagnosis of lesions of the ear which cause deafness and tinnitus.

I do not claim that the physiologic tests are infallible aids in the differential diagnosis of lesions of the ear, but that they are of very great value when intelligently used for this purpose. I do claim that without their aid many cases cannot be properly diagnosed. While these tests are perhaps not of equal value with ophthalmoscopic examinations of the fundus of the eye, they are the best at the command of the otologist and should be used in conjunction with all other methods of differential diagnosis.

100 State street.

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## NASAL POLYPI IN THE NASO-PHARYNX.

BY J. M. INGERSOLL, A.M., M.D., CLEVELAND, OHIO.

Lecturer on Oto-Laryngology in the Western Reserve University.

Large mucous polypi in the naso-pharynx, with their pedicles springing from some portion of the nasal fossæ, are comparatively rare. Such a condition could easily develop in neglected cases of nasal polypi, where the continual growth of the tumors in the nose would force one or more of the extreme posterior polypi back into the naso-pharynx, but the patients usually seek relief from the nasal obstruction and other symptoms caused by the polypi before such a condition develops, or, at least, before the tumors in the naso-pharynx become large enough to interfere with the act of swallowing or other disagreeable symptoms. The report of the three following cases is of interest, therefore, principally on account of the large size of the polypi.

*Case I.*—Mrs. W., age forty-two, consulted me, complaining of complete nasal obstruction, a profuse purulent discharge in the nose and naso-pharynx, persistent tinnitus aurium and increasing deafness. Examination showed both nasal fossæ to be filled with polypi, covered with creamy pus. The uvula and soft palate were pushed forward and downward, presenting a round, bulging appearance. The naso-pharynx was filled by a round tumor, regular in outline, movable and not adherent to the surrounding tissue; its most dependent part extended down a little below the free edge of the soft palate; its point of attachment could not be definitely determined. From its appearance and the nasal condition a diagnosis of mucous polypus was made, and this diagnosis was confirmed later by microscopical examination.

The naso-pharynx was cocaineized and a cold wire snare with bent tip was inserted through the mouth and passed well up around the tumor; the snare was then tightened until a firm grip was secured and the tumor removed by traction, so as to secure the pedicle and surrounding tissue. Considerable force was necessary to remove the tumor and the hemorrhage was quite severe for a few moments. After the hemorrhage had ceased, a posterior rhinoscopic examination was made and a part of the pedicle could still be seen, springing from the posterior end of the left middle turbinal. The stump of the pedicle was snared off through the nose afterwards, when the nasal polypi had been removed. The tumor measured 5.5 x 3 c.m.

After removing the polypus from the naso-pharynx the patient experienced marked relief; the difficulty in swallowing disappeared entirely, as did the tinnitus aurium, which had been constant and very annoying, and the hearing power increased from 4 c.m. to 50 c.m.

When the nose had been cleared of all polypi and hypertrophies, empyema of both antri, both frontal sinuses and the ethmoidal cells, was diagnosticated and treated.

*Case II.*—M. W., male, age fifty-seven, presented the following symptoms: Total inability to breathe through the nose, marked difficulty in swallowing, so much so that the patient was suffering from the lack of nutrition; persistent tinnitus aurium, deafness and asthma. Both nasal fossæ were filled with polypi, one large polypus presenting in each vestibule, causing considerable bulging of the alæ nasi and broadening of the bridge of the nose. The uvula and soft palate were pushed forward by a large round tumor which filled the naso-pharynx and part of the oro-pharynx, extending downward so far that it was necessary to depress the tongue in order to see the lower border of the tumor. As in the first case, the tumor was movable, non-adherent, fairly firm in consistency and attached high up in the naso-pharynx.

The cold wire snare was used for its removal, and the attempt was made to remove the whole tumor by traction, but the wire cut through the tissue and a round piece 4 c.m. (1.5 inches) in diameter came away. The hemorrhage was slight, and after it had ceased an examination with the posterior rhinoscopic mirror showed the stump of the pedicle and a second similar tumor filling the upper part of the naso-pharynx. These were removed with the snare and adenoid forceps and their pedicles, which were attached to the posterior end of the right middle turbinal, were snared off through the nose, after removing the nasal polypi. Microscopical examination in this case also showed the tumors to be typical mucous polypi. The tumor complete measured 6 c.m. in its longest axis and 4 c.m. in thickness.

The difficulty in swallowing was relieved immediately, the tinnitus aurium ceased and the patient's hearing increased considerably; the asthmatic attacks ceased. There still remained a profuse purulent discharge in the nasal fossæ, and a probable diagnosis of empyema of the accessory cavities was made, but the patient refused any treatment for this.

*Case III.*—Mrs. J., age twenty-three. This patient complained of constant obstruction and purulent discharge in the right nasal



fossa, which had existed for about two years. The hearing power of the right ear had been gradually decreasing, and the tinnitus in this ear was loud, persistent and very annoying. Examination showed the left nasal fossa to be nearly normal. The right fossa was completely occluded by polypi which were covered with purulent secretion.

In the naso-pharynx a mass could be seen which filled about two-thirds of the naso-pharyngeal space, covering the right choana and the Eustachian opening. This mass looked very much like adenoid tissue and had been so diagnosticated, but the condition in the nose and the fact that the tumor was movable and was not attached to the naso-pharyngeal wall warranted the diagnosis of nasal polypus.

After removing the polypi from the right fossa, the polypus in the naso-pharynx could be plainly seen and its attachment, by a small pedicle, to the posterior part of the middle turbinal could be felt with a probe. A flexible snare loop was passed through the nose and down into the naso-pharynx, between the tumor and the soft palate, until the loop extended below the tumor, then it was worked up around the tumor and the pedicle severed close to its attachment. The polypus dropped into the pharynx and was spit out by the patient. It measured 3 x 2 c.m.

In each case sections were made through the center of the tumor, including the pedicle, and examined microscopically. The surface of the tumors was covered by columnar epithelium; the tissue consisted of a diffuse myxomatous growth. The pedicle was composed of moderately dense fibrous tissue.

50 Euclid avenue.

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## STRONG CARBOLIC ACID USED BY MISTAKE AS A THROAT SPRAY.

BY D. H. GALLOWAY, M.D., CHICAGO, ILL.

Some months ago I was treating a child with diphtheria and when the child was convalescent the father contracted a severe tonsillitis and pharyngitis. Bacteriological examination failed to show any diphtheria bacilli and I treated the case locally with Dobell's solution and other antiseptics. On a certain day the patient was scarcely able to articulate and swallowing was extremely difficult and painful and seemingly produced some spasm of the glottis. On examining the throat I found it covered with a heavy coating of very tenacious mucus so that I could tell but little about the mucous membrane and I asked the patient's wife for some peroxide of hydrogen to be used as a spray in a hand atomizer. She brought me a bottle and the room being rather dimly lighted I held it toward the window in order to read the label which long experience as a druggist has taught me to invariably do before using the contents of any bottle. I recognized the amber bottle, dark-blue label, and read "Marchand's Peroxide of Hydrogen." I poured about an ounce of the contents of the bottle into the atomizer and sprayed the patient's throat and mouth. He coughed and choked, but seemingly not much worse than he had done with Dobell's solution, and in a few minutes I was able to repeat the treatment, which I did as forcibly as possible, but while doing it I saw that the mucous membrane of the entire pharynx and mouth had turned white and I recognized the effect of strong carbolie acid. I put the atomizer to my nose and got the familiar odor. I told the patient's wife to bring him a glass of hot water, with which to wash his mouth, and going to the table where the bottle had been placed I found on top of the original label—but not covering the name—a druggist's label which read "Carbolic acid, 95%." I poured the acid back into the bottle, rinsed out the atomizer with hot water, which happened to be handy, filled it with about equal parts of alcohol and water and with this sprayed the patient's throat and mouth and repeated ten or a dozen times in the next fifteen or twenty minutes. During most of this time the patient was choking and strangling, almost suffocated and quite cyanotic. When he was able to breathe with some freedom I stopped the treatment and directed that a mucilage of slippery elm

bark be prepared and that the patient drink a small quantity at frequent intervals. He completely recovered in about a week and when the inflammation caused by the acid had subsided the tonsillitis was also cured.

The accident was caused primarily by the druggist pasting the carbolic acid label over the original label, a thing which druggists seldom do and which should never be done. I remembered afterward that when I poured the acid into the atomizer it appeared to be a rather heavy liquid for peroxide of hydrogen, but the impression was not strong enough to arrest my hand.

Neither the patient nor his wife suspected that an accident had happened and I carried the carbolic acid bottle away in my pocket so that they might not discover it and become alarmed. The druggist and I spent two or three anxious days and the patient some painful and sleepless days and nights. I feared that the great edema which was produced in the pharynx might extend into the larynx and produce suffocation.

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## ANTERO-POSTERIOR CURETTE-FORCEPS FOR REMOVAL OF ADENOIDS.

BY W. A. MARTIN, M.D., SAN FRANCISCO.

Instruments that have been devised for removing post-nasal adenoids may be classed in three varieties, viz., curettes, forceps and guillotines. The first named are of various designs, but the most commonly used are the Gottstein type. Forceps are of two varieties—those that open laterally and those that open antero-posteriorly. The third, or guillotine type, are the adenotome of Schuetz and its modifications.

The favorite of these instruments is the Gottstein curette, which, in proper hands, in most cases does all that could be wished. Different operators have their own opinions as to the choice of models. There is a difference of opinion as to whether the instrument should be sharp or dull, many asserting that a dull instrument is less likely to produce hemorrhage. I have seen them with a saw edge, the claim for the latter being that it took hold better and caused less bleeding. I keep my own curettes with a razor edge. (This statement I make to correct an erroneous quotation in the "Year Book" that in operating I used a blunt curette, and thus held it responsible for the severe post-operative hemorrhages which I have reported.) The objection I have found to the curette is that in some instances the growth, or parts of it, are left hanging, and the operation has to be finished with a forceps; often it is impossible to remove all the fragments. I have had five cases of severe hemorrhage following adenoid operations, and in three instances I was not satisfied at the time of operation that the procedure was properly completed. Another objection is that the instrument has to be re-inserted several times if a long sweep is made.

Forceps vary in pattern as much as the curettes. I have not derived entire satisfaction from any of the various forms of forceps on the market. The first objection is that they are difficult to insert behind the palate in small children. The second that, unless guarded with the finger, they are apt to nip the septum or posterior end of the turbinates, and, thirdly, that they do not include the whole tumor. Many models only nip pieces of the growth. The inventors are not always responsible for the instruments in the market (one of the reasons that an inventor should at least be able to control the manufacture of the instrument even if he is not to reap any of the profits of his in-

ventive genius). I have a pair of Gradle's forceps that are only adapted for cutting away the posterior end of the septum, and are so constructed that it would be absolutely impossible to include even a small piece of the adenoid enlargement. Having compared them with the model approved by Gradle himself, I find that I bought a "gilded brick," although they were purchased from one of the leading instrument-makers of the country.

The antero-posterior forceps with which I am acquainted are few in number. The principal hindrance to this form of instrument has been the inability to separate the jaws of the instrument sufficiently to include the tumor.

I have not tried the guillotine form of instrument, of which the adenotome of Schuetz is the original type. It works on the same principle as the various tonsillotomes. Not having tried it I will not venture to criticise it.



The instrument which I have to offer is a forceps working antero-posteriorly. The anterior cutting blade is modeled on the lines of my favorite Gottstein curette. It cuts against a second blade which, when the instrument is closed, fills in the fenestrum of the cutting blade. It works exactly on the principle of the Gottstein curette with this advantage, owing to the opposing blade, that nothing is left hanging, and has the advantage over the curette that it can be opened and closed in different directions while in situ. It has the advantage over the different lateral forms of forceps that it is easier to insert and that no injury can be done with it to septum or turbinates. I have used it a number of times with perfect satisfaction.

As yet I have only had it made in one size, as I find the curette, after which I had it modeled, will perform its work satisfactorily in the throat of any child from four years to fourteen years of age, the period in which I find I am most often called on to operate.

The instrument has been made most satisfactorily after my designs by E. Meyrowitz, of New York.

135 Geary street, San Francisco.

## SOCIETY PROCEEDINGS.

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### AMERICAN LARYNGOLOGICAL ASSOCIATION.

The twenty-second annual congress of the American Laryngological Association was held in Washington, D. C., May 1st, 2d and 3d, 1900.

THE LARYNGOSCOPE is pleased to publish herewith carefully arranged abstracts of the papers presented at this meeting, as prepared by the authors themselves.

**President's Address**—SAMUEL JOHNSTON, M.D., Baltimore.

After returning thanks to the members of the association for the honor conferred upon him, the president spoke of the future policy of the association. He believed that new members should be elected by a two-thirds affirmative vote of the entire membership. Old members should be encouraged to continue in active work. Scientific and clinical work should go hand in hand. One should avail himself of all possible advances in diagnostic ability, as, for instance, the determination of leucocytosis as an initial feature of malignant disease. More attention should be paid, in teaching students in rhinology and laryngology, to operative work on the cadaver. Members of the association were looked to as teachers, and consequently great care should be taken in the selection of new candidates. The aim should be not mere numerical strength but skill in attainment. In the programmes of the future it might be well to limit the number of papers, but more attention should be given to discussion. The former should be grouped in two general classes, scientific and clinical. No opinion should go out from the meetings as official unless it was founded on facts. Mild measures, especially as concerned the use of the cautery, saw and trephine, should be strenuously urged. A committee of censors, to be elected annually, should be established, which should pass on all matter to be published in the annual transactions. In conclusion a feeling tribute was paid to the memory of two active fellows who had died during the year—Max Thorner, M. D., of Cincinnati, and Jos. C. Mulhall, M. D., of St. Louis.



**Fractures of the Nose**—T. A. DeBlois, M. D., Boston.

He said that "broken" noses, so-called, were not, as a rule, really fractured. They were rather cases of bony displacement and dislocation. They might be classified according to the degree of injury and also to the relation of the parts involved. There might be a dislocation (not fracture) of the nasal bones, *i. e.*, a solution of bony continuity, or there might be a fracture of the nasal process of the superior maxilla or of the zygoma. Injuries might also result during parturition or from nursing or sleeping, from the constant impact of the nose, delicate at this period, against the mammae or the pillow. Then again there were the cases occurring from falls, blows and collisions. In the "upper-cut" blow of the boxer there was injury to the septum, followed by swelling, possible abscess and detachment from the subjacent parts. The "side" blow gave a double dislocation of the nasal bones, while in the direct "front" blow the internal nasal border was driven downward and outward. Treatment consisted in the reduction of the dislocation, which might require a general anesthetic. These flat noses might be properly manipulated so as to dispense with external apparatus. For an internal splint, a bit of stiff rubber tubing inserted by means of a closed pair of scissors (well greased, so as to facilitate their withdrawal) might be of service. The elastic recoil of the rubber, slowly acting, will often force a dislocated nose into place, though some few days might be required to produce the full effect. Plaster of Paris bandage made an excellent external splint. Illustrative clinical cases were then described.

Dr. DeBlois also exhibited an illustration of an abnormality of the uvula which was double, one mass seeming to come from the anterior and the other from the posterior faucial arch. The former was amputated, leaving the latter appearing as a perfectly normal organ.

**Atrophic Rhinitis**—JAS. E. LOGAN, M. D., Kansas City, Mo.

The special purpose of Dr. Logan's paper upon atrophic rhinitis was to discuss its causation. The causes were summed up under four (4) heads: 1. Hypertrophic rhinitis is the initial lesion producing atrophy by mechanically cutting off nutrition to the outer layers of mucous membrane. 2. Purulent rhinitis in childhood develops a desquamative disease beginning in the superficial layers of the membrane. 3. Atrophy is the result of a specific germ. 4. Pre-existing suppuration of accessory sinuses produces atrophy,

first by inducing desquamation of epithelium, followed by attenuation of other tissues; due to the constant presence of this product of inflammation, the mechanical pressure exerted by evaporation of the watery elements of the discharge, and the formation of crusts upon the surface of the membrane. Numerous other theories have been advanced, but they have been mere modifications of those just enumerated.

Fränkel, Krause, Mackenzie and others believe that hypertrophy is the initial lesion. Bosworth has always been the supporter of the second theory. Loewenberg, Abell and others have maintained the germ theory of its origin. Michel, Grünwald and others have adhered to the theory that the pre-existing suppurative accessory sinus was the probable cause. Which of these theories is correct?

We know that hypertrophic tissue will take on atrophy, but the presence of the former is not necessarily followed by the latter condition as clinical facts have proved. Atrophy may begin by reason of a distinct cause other than the presence of an hypertrophic condition. Atrophy exists most frequently in young people before the age of twenty, and we know that hypertrophy is less excessive at early ages than at later periods in life. Females are the most frequent sufferers, yet we have less hypertrophy in the female than in the male. The germ theory of this disease lacks clinical proof. Inoculation experiments have failed to establish its virtue as a theory.

Dr. Bosworth in 1881 presented a very interesting paper before the International Medical Congress in support of his theory, and many are inclined to accept it as the best explanation of the cause.

I can well understand how this specific inflammation existing in early childhood might eventually produce in neighboring accessory cavities the same type of disease, namely, purulent sinusitis, which by its stubbornness would continue so long as to result in atrophic changes in the nasal cavity. But I do not see my way clear to believe that the nasal cavities alone being involved could establish the proper explanation of the presence of attenuation of this membrane, at the same time the secreting power of this membrane be not diminished. To explain my point, I cannot understand how this membrane, robbed of its epithelium, stripped of its glandular tissue, practically devoid of its blood supply, except through minute channels, could maintain the excessive secretion exhibited in these nostrils. It does seem to me that this secretion must come from the neighboring cavities.

The vital objection to all the theories of which I have any knowledge is a failure to account for the immense secretion neces-

sary for the production of these crusts. It is contrary to all physiological law to find secretion where glands exist, and the microscope fails to reveal glandular cells in a large percentage of atrophied tissue. We also know that the discharges are not from the blood channels, for such exist in but a limited degree.

The experience of various writers referable to the initial site of atrophy differs. Fränkel, Krause, Mackenzie and others believe that the inferior body is the first involved, while many others have found the middle turbinate to be the primary location. Those who believe that the latter is the first affected are inclined towards the accessory sinus theory.

In laying aside the idea of antecedent hypertrophy as a probable factor, it is not unreasonable to believe that the middle body would be more inclined to atrophy, by reason of the fact that its blood supply is more limited and its tissue element less resisting. My experience in practically every case has led me to this belief, as I have before intimated in reference to Case I, as in many others; I have seen the atrophic process established in the middle turbinate, while the inferior upon the same side showed but little evidence of the disease.

**A Case of Ozena of Probable Sphenoidal Origin—J. W. FAR-  
LOW, M. D., Boston, Mass.**

His patient was a girl, aged twenty-one years, with a crusty, odorous discharge from the left naris. There was considerable atrophy of the intra-nasal structures, but the discharge seemed to come definitely from the posterior portion of the naris. The probe seemed to pass into a cavity which was regarded as the sphenoidal sinus. Syringing with peroxide of hydrogen and an alkaline antiseptic, and later curetting, practically relieved all the symptoms.

**Recurring Membranous Faucitis, due to the Bacillus of Fried-  
lander—EMIL MAYER, M.D., New York.**

Friedlander's bacillus, first described in 1882, has been found in local manifestations in stomatitis, ozena, rhino-scleroma, acute suppurative rhinitis, in pus in the antrum of Highmore, in membranous bronchitis, in suppurating dacryocystitis and in ulcers of the cornea. In manifestations by extension it has been found in parotiditis, otitis, broncho-pneumonia, purulent pleurisy, pericarditis, pyelo-nephritis and meningitis. Generally it has been found in pyemia and septicemia.

The first mention of its occurrence in connection with pharyngeal affections was made by Max Stoss in 1895, who described one case.



In 1897 Nicolle and Hebert described five others. Pakes has brief notes of five more cases in 1898, and Billet reports two in 1899. To these recorded cases the writer adds another.

Regarding the frequency of the occurrence of this bacillus Hebert reports that in 1600 examinations of cultures taken from diseased throats, it was found present eight times, while Pakes found it five times in 500. The brief histories of the recorded cases are given and all are in accord that the distress occasioned is very slight, often in no proportion to the extent of the affection. The patients complain of but little or no discomfort; the exudate, which occurs most frequently on the tonsils and on the pharyngeal wall, remains persistent for a long time until it eventually disappears. There is no glandular swelling and no fever. The membrane is pearly white, is very adherent and difficult to remove with forceps, and leaving a bleeding surface when forcibly detached.

The case cited by the author was referred to him by Dr. J. C. McReynolds, of Dallas, Texas. A young lady of nineteen had been under the care of the latter for eighteen months. During all this time a membrane formed either over the entire pharynx and soft palate or over the latter alone. This membrane formed, and subsequently exfoliated on the third day, an interval of entire freedom then existed when it re-formed. After exfoliation the throat appeared normal. If it was prematurely removed a raw surface bleeding on manipulation was present. When it exfoliated large pieces were removed which were pearly white with numerous pinhole perforations. Constitutional manifestations were very slight and mild in comparison with the local involvement.

At no time during the past year and a half had she been free from the membrane more than fourteen days.

The growth of the membrane was carefully watched by the writer and described as being opaque-looking at first, then a very thin adherent membrane appears and is exceedingly tenacious. In a few hours it becomes thick and is pearly white. Twelve hours later exfoliation occurs and large pieces may be removed without pain, the underlying mucous membrane being reddened but not bleeding. The membrane is all thrown off and nothing can be noted of any pre-existing affection from its appearance. Two days later the process was repeated.

These conditions remained for the month that she was under the writer's observation. Her general condition was otherwise good.

Cultures sent to the local health department resulted in the report of "No Klebs-Löffler bacillus."

Examinations of the membrane by George S. Dixon and Eugene Hodenpyl showed it to consist of squamous epithelium arranged in layers of from three to six cells in thickness. On the surface of the membrane, between the cells, as well as within them, are very numerous bacteria in the form principally of short bacilli. There is no fibrin present, neither can leucocytes, blood vessels nor connective tissue be detected.

Bacteriological examination by A. J. Lartigau showed Friedlander's bacilli in pure culture. A guinea pig was inoculated and the bacillus of Friedlander was found in the spleen.

These reports are all given in minute detail and a colored drawing of the diseased state accompanied the paper. The similarity of the cases found in the literature and the one presented by the writer is striking, there being the same rounded character to the edges, the same pebbly points strewn through the membrane, the same adhesiveness in early stages and the same bacillus in pure culture. There were some points of difference in them, though. In but one other case was the entire soft palate covered. In none of the recorded cases was there any exfoliation. But in the chronicity the absence of any constitutional signs, the membrane formation and the bacillus always present in pure culture, makes the diagnosis positive.

The question of the possibility of malignering was gone into thoroughly and emphatically negatived.

As far as treatment was concerned, the disease seemed to be limiting itself by very slow process indeed, orthoform in alcohol always rendering her comfortable.

The author concludes thus:

1. That anginas due to the bacillus of Friedlander may exist in a subacute or chronic form.
2. They occasion no distress except perhaps in the beginning of the membranous deposit.
3. They may appear in membranous form, exfoliating and recurring.
4. In the chronic form treatment seems to be of no avail, the bacilli eventually becoming much less active, and the condition cease by limitation.
5. They are probably much more frequent than the few recorded cases seem to indicate.

**On the Employment of the Upright Position in Ether Operations  
Upon the Nose, Throat and other Portions of the Head, with  
Exhibition of a Chair to Facilitate such Operations—THOMAS  
R. FRENCH, M.D., Brooklyn.\***

The writer believes that there has been an almost universal fear amongst surgeons of performing surgical operations upon the nose and throat while the patient is in the upright position, because of the supposed danger of blood flowing into the windpipe. Unless the patient is profoundly anesthetised this does not occur, and even in deep narcosis, during the performance of operations above the larynx, the danger is not great if anything like reasonable care is taken to prevent the blood from flowing over the arytenoid structures, for when sharp hemorrhage occurs the blood can either be caused to drain out from the mouth or nose by tilting the head well forward, or can be caught in sponges passed through the mouth to the posterior pharyngeal wall. It is claimed that disaster is courted when operations are performed in this position, and that if blood flows into the lower air passages while cough reflex is abolished one has only himself to blame if pneumonia or violent bronchitis occurs afterward. Theoretically that seems a plausible statement, but when confronted with the fact that in nearly a thousand operations performed in the upright position by the author and his associate neither such nor any other severe accident has happened, the objection would seem to be deprived of its weight.

A new chair belonging to the class of furniture known as aseptic furniture, the rods of which are made of bicycle tubing, was then described. As the rods supporting the back slide into the back legs of the chair the back can be lengthened to fit any adult, or shortened to fit the back of a child of eighteen months. After being anesthetised in the horizontal position the patient is placed in the chair, which is tilted far backwards, and, while in that position, is strapped to the chair. From that position the head is gradually elevated until the body is in the upright position, by which time the patient is sufficiently anesthetised and the body is in position for operation. It is very important that the elevation of the head should be gradual, otherwise cerebral anemia and loss of cardiac balance may occur. The writer maintains that if care is taken to elevate the head slowly the upright position is in every way as safe for the patient as the prone position.

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\* (As Dr. French was unable to attend the meeting he forwarded the above abstract of his paper, together with photographs and colored drawings representing the chair and the manner of placing the patient in, and adjusting and fastening him to it.)



The three most important advantages claimed for the upright position in ether operations were: First, the very considerable reduction in the amount of hemorrhage; second, the reduction of the chances of ear complications by securing complete drainage of blood from the naso-pharynx, the author never having had a case of ear complication follow operation in the upright position, and, third, the ease, thoroughness and accuracy with which operations can be done, in the shortest time, by the retention of the usual relationship between operator and patient.

### **New Instruments.**

At the close of the session Dr. Boylan exhibited a hypodermic syringe for the application of cocaine to the pharyngeal vault for adenoid operations.

Dr. J. H. Bryan, of Washington, showed an aseptic syringe for nose and ear work and improved drainage tubes for the frontal sinus; Dr. R. P. Lincoln, of New York, a wax model of a recurrent tonsillar tumor, with illustrative plates; Dr. Mayer, a hollow intubation tube introducer for use in laryngeal stenosis, the intubation tube itself being retained by an arm screwed in through the tracheotomy incision.

Dr. T. R. French, of Brooklyn, exhibited photographs of a chair to be used in the employment of the upright position in ether operations on the nose and throat.

### **DISCUSSION.**

#### **The Early Diagnosis of Laryngeal Cancer and the Treatment—**

*Methods of Diagnosis and General Principles of Treatment*—JOHN N. MACKENZIE, M.D., Baltimore.

Leaving out of consideration the probable existence of a cancer bacillus and the possible future detection of the disease through the blood and secretions, there remain, in the present state of our knowledge, three principal methods of diagnosis in laryngeal cancer. These are, in the order of their practical usefulness and importance:

1. The naked-eye method, or diagnosis by direct inspection, supplemented by clinical phenomena.
2. Thyrotomy, and, finally,
3. The microscope. Of the three methods, the second is often included in, and, therefore, ancillary to the first.

It is impossible to exaggerate the importance of naked-eye diagnosis in the detection of laryngeal cancer. Take it all in all,

it is by far the most practical of the three methods. Unfortunately, in most quarters it is relegated to subsidiary place. Even the best of laryngeal surgeons lose no time in procuring portions of a suspected growth for microscopic examination before they have gone thoroughly into the history of the case and carefully endeavored to make the diagnosis with the naked eye alone.

Every resource and refinement of clinical diagnosis should be resorted to before an appeal to the microscope is made.

As the advanced workers in the field of general surgery have, in the differentiation of tumors, come less and less to seek the counsel of the pathologist, except as a court of the very last resort, so should we teach ourselves to depend more and more upon the naked-eye appearance in the diagnosis of tumors in the windpipe. The removal of the "piece for microscopic examination" too often means only the beginning of the end.

The trained surgeon of to-day discriminates with marvelous accuracy (with the naked eye) between the different varieties of benign and malignant growths and we should cultivate and encourage a like amount of skill in the diagnosis of laryngeal tumors.

But, suppose, after weighing carefully all the facts of the case in our possession, a reasonable doubt remains as to the diagnosis, shall the next step be the removal of a portion of the diseased structure for examination?

In the face of all authority to the contrary, I say, emphatically, "No." Before even considering such a proposition (if it be considered at all), the suspected growth should be examined from every point of view, for in this manner alone can we give the naked-eye method its full measure of usefulness. This is best accomplished by the second method—thyrotomy, or, if necessary, even more extensive external division of the tissues of the neck.

Thyrotomy is (always) justifiable, in such cases, when laryngoscopic examination either leaves a reasonable doubt as to its true nature, or manifestly fails to define the exact territory occupied by the disease.

Much can be learned by this method, but it, too, has its limits of usefulness. For, while it alone may establish with certainty the existence of cancer, it often fails to define with absolute accuracy the whole area covered by the morbid process. We can, therefore, never be perfectly sure, especially in cases in which the cancer appears as a diffuse infiltration, that we have the entire disease before our eyes. For, as I have formerly pointed out, as it is often impossible to indicate with exactness the extent of the trouble

laryngoscopically, so after division of the larynx, and even after the removal of the latter organ from the body, it is by no means always possible to map out the entire distribution of the affection.

But suppose, after division of the larynx, there still remains (the faintest) trace of uncertainty as to diagnosis, are we justified under the circumstances and at this stage in removing a portion of the growth for examination? Or to make the question still broader, is partial extirpation of the tumor ever admissible even for the purpose of microscopic diagnosis? Only as a measure of the very last resort. Before resorting to thyrotomy in general, especially if a portion of the growth is to be removed for examination, it should be clearly understood beforehand with the patient, that if the disease should prove to be cancerous, the surgeon shall be at liberty; if in his judgment it seems best, to proceed at once to operation.

The objections which I would urge against removal of tissue for examination (especially when done through the natural passages) are: (1) It subjects the patient at once to the dangers of auto-infection at the point of incision and to metastasis elsewhere; (2) it stimulates the local growth of the cancer, and (3), finally, the method is often inconclusive, misleading and sometimes practically impossible.

The moment the continuity of the growth is broken in that very moment is opened the pathway for self-poisoning, and an unfavorable influence is at once excited on the local process. This is the solemn lesson which I have slowly learned from a sad experience in the past.

Cancer is an infectious process. Whether it be due to a bacillus, which is probable, or whether its activity be due to some vital principle inherent in the cancer cell, incision through the cancerous mass opens up at once a broad avenue for auto-inoculation.

Surgical treatment, to be sufficiently radical, involves the sacrifice of so much tissue that the time must surely come when surgery will be supplanted by simpler and more certain means, and with the discovery of the agent of infection will come its antidote. But to-day the knife is our only means of cure. How can we best employ it?

The general principle of treatment in cancer of the larynx is sufficiently simple. It is, or should be, identical with that which governs us in the treatment of cancer elsewhere in the organism. Total extirpation, *through liberal portions of healthy tissue*, of the growth, together with the neighboring area of possible lymphatic



infection, is the cardinal principle of surgery in the treatment of this disease, for by no other method can it be thoroughly eradicated.

The surgical treatment of laryngeal cancer has resulted in failure in the past because the methods employed have not been sufficiently radical. Thyrotomy with curettage or partial removal, partial and complete removal of the larynx have fallen far short of success simply because they have not completely removed the disease. The records of the future will show that the reason so many cases have terminated in failure and death is because the disease has only been partially removed. As long as we have lymphatics to carry infection and glands to become infected, so long will the patient be subjected to ultimate danger. There is only one rational method, in the majority of cases at least, of dealing with cancer of the larynx. Early total extirpation of the entire organ with its tributary lymphatics and glands, *whether the latter be apparently diseased or not*, is the only possible safeguard against local recurrence or metastasis. By no other method can we give the patient a reasonable assurance of a permanent lease on life.

The surgeon who is abreast with the times does not trifle with cancer in other organs. Why should the larynx be made the exception to the rule? I am told that there are some gynecologists who still curette the uterus for cancer and some surgeons who still remove half the breast in that disease, but, like the Democrats who still vote for Andrew Jackson for president, they are becoming every day more and more hopelessly in the minority. We shall have to learn the same lesson here that we are slowly learning in the case of cancer in other parts of the body. It is the same old fight and the same old obstacles will have to be overcome.

It is often impossible by inspection either with the laryngoscope or after preliminary division of the thyroid, by transmission of light or by the sense of touch, to limit the extent of the disease before operation. As I have demonstrated, even after removal of the larynx, the disease may be apparent in one side of the organ and not in the other and yet the microscope show extensive carcinomatous deposit in the seemingly normal side. Especially is this the case in diffuse infiltration or when the epithelioma originates in the deep-seated tissues and does not approach the surface until a late stage of the disease. The loose tissue beneath the mucous membrane in many places and its wealth in lymphatics often favor from a small focus of infection infiltration of other portions of the larynx and sometimes with great rapidity.

Diffuse infiltration, even though confined to a small area, should always awaken suspicion of the existence of the disease elsewhere in the organ, even though no apparent signs of its presence exist.

It is also possible that in its early history, we may find young cancer cells in the lymphatics, as Halsted has demonstrated in the case of cancer of the breast.

In the presence, therefore, of the fact that it is often impossible to limit the diseased area by inspection and the sense of touch, and in the light of the revelations of the microscope, it becomes a serious question whether we accomplish any lasting good by any operation short of complete excision of the larynx and neighboring lymphatics and glands. Certainly, if the disease approaches the middle line, the imperative necessity of complete removal must be apparent to the most timid and doubting operator.

While total extirpation of the organ with the neighboring area of possible lymphatic infection should be the general rule of practice, are there exceptional cases in which a less radical method of procedure is justifiable?

Early cases in which the growth is very small (as, for example, the small, papillomatous and polypoid growths, sometimes found on the cords), distinctly circumscribed, remote from the middle line and not of a specially malignant type, may possibly be removed with safety by extirpation of half the larynx and the lymphatics of the corresponding side. Even here success may be due to the fact that while the growth may be pathologically malignant, it may yet be clinically benign. For example, on other mucous membranes of the body (lips, mouth, bladder, etc.), and on the skin, we find such neoplasms in which the microscope shows an epitheliomatous structure in the main body or superficial portions of the growth, but no malignant changes in base or pedicle. It is quite probable that such a condition exists in the larynx. But even in removal of half the larynx and neck lymphatics we can never be perfectly sure that we have removed the entire disease, whilst it is open to doubt whether the preservation of function which may be secured thereby is sufficient to warrant the risk. Partial preservation of function should never be attempted in the presence of the slightest danger to life.

Operations for laryngeal cancer through the mouth, done almost universally to-day, it seems to me, should no longer come within the range of serious consideration.

Thyrotomy with curettement or removal of all apparent (visible) disease is not up-to-date surgery, is in direct defiance of the rules

that should govern us in the treatment of cancer, and is a reversion to, and a resurrection of, a method of procedure that was discredited and abandoned over half a century ago.

Whatever operation be done, it should be forever borne in mind that we are dealing with cancer—with an infectious process—that no matter how minute the original point of infection may be, the area of possible poisoning is practically boundless, and that, if the slightest doubt exists as to the circumscription of the growth or its character, the complete operation should be done.

No operation for laryngeal cancer is complete without the removal of the neck lymphatics.

It is chiefly because they have not been complete that excision of half the larynx or of the whole organ have so signally failed in the past.

The history of the treatment of laryngeal cancer is the same old wretched story of the treatment of cancer in other organs—the long and melancholy record of dismal failure after failure—the inevitable result of only partially removing the disease. What is the present status of the subject? As far as operative measures are concerned, there seems to be utter paralysis of effort—on every side we are confronted by practical failure. Without stopping to inquire how far apparent success in partial removal of laryngeal cancer may be due to mistakes in diagnosis or to the simple accident of good fortune, it is safe to say that in the present state of our knowledge the outlook is extremely unsatisfactory and somber. In the presence of the great uncertainty that surrounds operations for partial removal, and in the light of our experience in the modern treatment of cancer in other organs of the body, shall we resort to complete extirpation of the larynx with the neighboring area of possible infection, or shall we cling with fatuous persistency to what some one has called, with cruel felicity of expression, the “incomplete operation,” under which term must be included all surgical procedures hitherto resorted to in this disease?

The time will surely come, if it has not already come, when the conscientious surgeon will consider that he has fallen far short of his duty both to his patient and to himself if he does not, in the treatment of cancer of the larynx, remove not only the entire organ, but also the neighboring lymphatic area. Then, and not till then, will we have more favorable statistics and prognosis in cancer of the larynx. Then, and not till then, will the medical historian chronicle a real advance in the management of this terrible disorder.



*Methods of Treatment and the Statistical Results*—D. BRYSON DELAVAN, M.D., New York.

Detailed statistics and data were presented, but are not included herewith. Seven years ago the writer had made an earnest plea for the reporting of all cases, successful ones as well as failures. One hundred and sixty-three cases of eight continental surgeons were compiled. Only those who had had at least ten personal cases were considered. No American was represented. The current statistics were not reliable, because some cases in which more than one operation had been performed appeared as additional cases, besides the line of demarkation between thyrotomy and partial resection had not been sharply drawn. Of the entire number of cases presented and carefully tabulated, only six per cent indicated recoveries, that is three years after operation.

*The Surgical Procedures*—J. SOLIS-COHEN, Philadelphia.

The speaker emphasized the point that permission should be secured from the patient to do whatever seemed necessary before undertaking the operation. If the growth was of such a shape that a section could be removed through the entire thickness, thus allowing the examination of the cut surface, this procedure was permissible. If the growth affected the vocal band, a thyrotomy might be undertaken, and a knife employed to remove the circumscribed diseased tissue. Partial extirpation was not reliable.

In the performance of laryngectomy attention should be called to the points: 1. In order to prevent the entrance of septic matter into the lungs, the operation should be conducted with the head of the patient in a semi-inverted position. 2. Preliminary tracheotomy should be done, otherwise we may be troubled with the descent of the trachea. 3. Efforts should be made to retain the epiglottis if possible. 4. All communication of the mouth with the air passages should be shut off. In attaching the upper part of the trachea to the skin, the tube should be slit longitudinally for a short distance. 5. Avoid all dressings. No packing should be allowed, as this causes a constant desire to swallow. Feeding should be conducted by enema, and no tube used through the mouth. The larynx should be removed from below upward, and after operation the foot of the bed should be elevated. The importance of the combination of laryngological and surgical skill are urged as necessary to secure the most practical results in dealing with these problems and difficult operations.

## GENERAL DISCUSSION.

Dr. C. C. Rice, New York, expressed the conviction that the laryngologist should not turn over these cases to the general surgeon until the diagnosis was positively established. Early diagnosis was difficult. He believed in giving iodides and carefully watching the progress of the case before advising operation.

Dr. Emil Mayer, New York, called attention to the fact that cases often diagnosed as laryngeal cancer showed the origin of the growth to be in the esophagus. He thought that there was a very decided limit to the extent of applicability of endo-laryngeal methods.

Dr. W. K. Simpson, New York, could not advise total extirpation until a microscopic examination of a fragment of the growth had determined the diagnosis. If an early diagnosis could be made and an isolated deposit found, endo-laryngeal methods might be available. In one of his own cases thus treated the man was alive four years after operation. In view of this personal experience, he could not advise total extirpation.

(To be Continued.)

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ERRATA.

**Note.**—In the preparation of the July, 1900, issue of THE LARYNGOSCOPE the revision of one galley of proof was overlooked, and attention is called to the following errors:

- p. 66, line 17, reads *antrum half* instead of *anterior half*.
- p. 66, line 28, reads *height and color* instead of *heightened color*.
- p. 67, line 1, reads *opposing surfaces* instead of *apposing surfaces*.
- p. 67, line 9, reads *followed by* instead of *forward*.
- p. 67, line 16, reads *proceed to* instead of *precede*.
- p. 67, line 35, reads *should be followed* instead of *should not be followed*.
- p. 68, line 15, reads *convexative* instead of *convexity*.
- p. 68, line 15, reads *lighting on* instead of *occurring on*.
- p. 68, line 25, reads *conservatory* instead of *conservative*.
- p. 78, last line, reads *water test* instead of *Weber test*.
- p. 79, line 4, reads *reply when* instead of *reply correctly when*.
- p. 79, line 27, reads *while large* instead of *while not large*.

## NEW YORK ACADEMY OF MEDICINE.

### SECTION ON LARYNGOLOGY AND RHINOLOGY.

Stated Meeting, May 23, 1900.

Wendell C. Phillips, M.D., Chairman.

#### **New Instruments.**

Dr. Joseph H. Abrahams presented, by invitation, some instruments that he had used for the treatment of acute and chronic diseases of the tonsils. The first was a curette, made of malleable material so that the angle of the shaft could be changed at will. The second was a small double-edged knife for cutting the adhesions between the tonsils and the faucial pillars. The third instrument was a lacunar knife having an olive point. The last one exhibited was a bistoury of such a shape that a piece of adhesive plaster or gauze could be readily wound around it to protect the cutting edge when incising abscesses or for similar work.

#### **An Unusual and Intractable Symptom of Antrum Disease.**

Dr. Thomas J. Harris described this symptom and exhibited an illustrative case. He said that pain in disease of the maxillary fossa was a common phenomenon though it varied greatly in degree. It was usually slight and associated with sensitiveness over the diseased antrum. The intractable symptom referred to was a distressing neuralgia. The patient presented was a man, twenty-seven years of age, a brakeman, who had presented himself in June, 1896, with an empyema of the antrum. Considerable pus had been evacuated and careful curettage made, but no dead bone had been discovered. In spite of this the dull neuralgic pain had persisted, and had continued daily for hours at a time. Pain was always elicited when a probe touched the upper and inner wall of the antrum. In June, 1897, the antrum had been reopened and curetted, but the pain had persisted. Salol, phenacetin, Warburg's tincture and various other remedies had been tried without avail. Excision of Meckel's ganglion had been advised, but not agreed to. Then a long course of electrical treatment had been tried, but with no better result. The pain had continued up to the present time without much change. The second case reported was that of a cigarmaker, forty-seven years of age, with nasal obstruc-



tion from an exostosis. After the removal of the latter he had suffered a good deal from neuralgia, and a year later the antrum had been opened and foul pus evacuated. The third case was a phlegmatic German girl, first seen in 1897. Four years previously she had received a blow upon the nose, and for the past year there had been pain in the nose. On opening the antrum and evacuating considerable pus the pain had been relieved for a time, but had returned subsequently. The antrum had been again freely opened and curetted and packed with gauze. The pain had persisted in spite of the various forms of medicinal treatment. There was still a purulent discharge from the ethmoid region notwithstanding the repeated washings. In this case an hysterical element was strongly suspected. Long-continued disease of the antrum seems to be capable of giving rise to a lesion of the nerve itself. These patients were not neurotic in appearance. For those cases in which the pain was severe, excision of Meckel's ganglion should be advised.

Dr. Robert C. Myles said that he had had several cases in which physicians and surgeons had requested him to perform exploratory operations upon the antrum, and the mucous membranes were found intact and healthy. Very extensive operations had been done on the superior maxilla in some of these cases, but without success. On the other hand, there were cases of localized neuritis or periostitis which were relieved very decidedly. He had under his care a case in which the posterior portion of the antrum was greatly thickened, and this gave rise to pressure on the nerve filaments and more or less constant neuralgia. Ethmoiditis and antrum abscess were often associated, and very frequently the small cells above the orbital cavity became blocked and caused neuralgia, lasting for months. On opening these cells, and evacuating the retained secretion, the pain would be relieved. In these cases one was justified in cutting rather freely.

**Report of a Case of Aneurism of the Internal Carotid Artery,  
with Attacks of Epistaxis and Hemoptysis, Followed by  
Death and Autopsy.**

Dr. Burton S. Booth, of Troy, made this report. The man had been supposed to be suffering from a chronic quinsy. His first examination had been made January 18, 1900. The patient was a young, anemic man whose breath had a very foul odor. Inquiry showed that a tampon had been lodged posteriorly on the right side and could not be removed. About two years previously his nose had been broken in a bicycle accident. The present trouble had begun

on January 1st, apparently with a cold. Epistaxis soon set in and recurred almost daily. The physical examination showed deviation of the septum to the right, a purulent discharge from the nose and a tampon which had been retained for three days. In the pharynx was a mass extending from the left half of the naso-pharynx to the vault and down as far as could be seen. In the center of this mass was a hemorrhagic spot. Under anesthesia the tampon had been removed from the nostril and the patient had been kept in bed. On January 26th there had been a hemorrhage from the naso-pharynx and a slight one on January 28th. The next day there had been a profuse hemorrhage from the mouth and nose, which had proved fatal in a few seconds. The diagnosis was a dissecting aneurism of the internal carotid artery. The autopsy had been made five hours after death. At a point on the internal carotid, about at the junction of the cervical and petrous portions of the artery, was an aneurismal sac which had ruptured. The case was reported because of the peculiar history and the ease with which it had been mistaken for a peritonsillar abscess.

Dr. T. R. Chambers said that he had had a somewhat similar case, which had been shown to this section.

Dr. Jonathan Wright said that he had seen one or two cases of dilatation of the pharyngeal artery, but nothing so large as the one just reported. His own cases could hardly be considered true aneurisms, but rather "knuckles" in the artery. He recalled a case of that kind which had been incised by some one under the supposition that it was an abscess, and in this way the dilatation of the pharyngeal artery had been converted into a traumatic aneurism.

Dr. W. B. Johnson said that two or three months ago he had been called in to see a case in which a tremendous hemorrhage from the ear had occurred just as a tonsillotomy was about to be performed. On examination there was a very large, tense swelling in the neck and another in the mouth, looking somewhat like that seen in cases of slow-forming pus tonsillar abscess, but believed to be an angioma or angio-sarcoma. No operation was done. There had been subsequently two slight hemorrhages and the subsequent discharge of what appeared to be blood serum from the ear. There had never been any pulsation in this case, and nearly all of the swelling, due to extravasation of blood, had disappeared, though the tumor was still prominent and the peritonsillar swelling persisted. The hemorrhage from the ear was thought to have burrowed up the pharyngeal wall and along the floor of the external auditory canal and to have escaped at the lower edge of the

tympanic ring at the junction of the skin with the tympanum. The hemorrhage was believed to be from the tumor of the neck, although there existed at the time an old perforation of the tympanum.

### Nasal Calculus.

Dr. Edward W. Peet reported this case and presented the specimen. The patient was a woman of seventy-one years, who had sought advice because of a profuse and offensive watery discharge from the nose. She stated that for thirty or forty years she had occasionally blown from the nose small, hard, brownish particles. She could breathe easily through either nostril. Her previous health had been good. Examination showed a calculus lodged about one inch from the right nostril. It was a rough mulberry calculus imbedded in the tissues. It measured  $2\frac{1}{2}$  by 1 by  $\frac{3}{4}$  c.m. The calculus had perforated the septum just anterior to the vomer. The removal left the vomer denuded in one small spot. Careful examination had failed to show any nucleus. The patient asserted that the specimen was exactly like the particles that she had blown from the nose from time to time.

Dr. Phillips said that some years ago he had seen a child of twelve years who was supposed to be suffering from a very foul catarrh. Examination showed a large shoe button that had perforated the septum and had probably been in the nose for two or three years.

Dr. Chambers referred to a case in which a plug had been left in the nose for several months, having been forgotten after checking a nasal hemorrhage. The discharge was very fetid.

Dr. Wright said he had seen one case of calculus in the nose in which a school sponge was the nucleus. He had seen one case, too, of a tooth in the nose.

Dr. Wilson reported a case that had been under the treatment of another physician for two years. On examination he had found the leaf of a tree which had become impacted in the nose.

Dr. Burton S. Booth spoke of a recent case in which he had removed a very large rhinolith which had been in situ for twenty-five years. It was necessary to crush it into several pieces before it could be removed. This rhinolith must have been at least twice the size of the one just exhibited.

Dr. M. D. Lederman said that he had removed from the nose portions of a hairpin, strings, shoe buttons, pebbles and a coffee bean. He advised the use of a general anesthetic in young chil-



dren, for considerable damage may be done by instrumental trauma, in attempting to remove any foreign body from the nose or ear of a frightened and struggling child.

Unilateral nasal suppuration should always call our attention to the possibility of a foreign body in young children. A small alligator forceps, blunt hook or a dull wire aural curette will often prove of valuable assistance in removing such substances.

Dr. J. E. Newcomb said that recently he had detected a foreign body with a probe in the naris of a little girl, but on examining her subsequently under an anesthetic he had been unable to find it again. The discharge continuing, at the end of a few days the child blew out the shoe button herself. One case had occurred at the Roosevelt Hospital in which a croton bug had been removed from the nostril.

Dr. Myles said that one of the most serious cases of this kind that he had treated was one in which a large brass collar button had been retained about seven years. It was preferable to use an anesthetic in these cases, but if the child was cocainized, wrapped in a sheet and properly held as it would be for intubation, the operation could be done without anesthesia.

Dr. Wright said that one of his assistants had made a wire loop with the slight curve on the flat, with which it was exceedingly easy to remove foreign bodies from the nose. He had found it better than any kind of forceps.

Dr. Haskin said that in making a model for an obturator for a cleft palate a dental student had allowed some of the plaster of Paris to escape into the nose, and it had remained there as a foreign body. On examination he had found the mass of plaster packed under the inferior turbinate and had removed it.

Dr. J. E. Newcomb referred to a case which had already been before the section for diagnosis. It was a case of laryngeal infiltration, the nature of which was doubtful. (See LARYNGOSCOPE, March, 1900, page 156.) He began to take the iodide soon after (January 26th), and was seen about a month later when the edematous infiltration which had been present had entirely disappeared. He was seen again on April 12th. The voice was fairly clear, though he said it became hoarse whenever he was tired. Then he was apt to cough a little and his voice would give out. Any taking of fluid was liable to choke him. His general health had been excellent since he had been shown to the section and he had gained in weight. The dosage of the iodide had varied from two to twenty-four grains three times daily, the patient running up and

down the scale so far as amount was concerned. On April 12th only a very slight reddening of the posterior third of both true cords was present, perhaps a little more marked on the left. The movements of the cords were perfectly normal.

Dr. J. E. Newcomb presented a case with paresis of the left vocal cord. The patient, a man of sixty, gave no special history, either personal or family. He had always been well and able to work. Had been a heavy smoker until three months ago. Then gave up using tobacco; drinks beer moderately; positive denial of specific disease and none of its stigmata can be found. About February 1st of the current year he grew hoarse within a period of two days without any apparent cause. He has so continued without odynphagia, spontaneous dyspnea or laryngeal pain. He has dyspnea on slight exertion and an occasional husky cough. He has emaciated some in the last three months.

On examination nothing was found in the chest except chronic emphysema. Urine was normal. No signs indicative of aneurism could be made out. In the larynx it was seen that the left cord stood a little outside the median line, but not in the cadaveric position. No congestion or ulceration could be seen. On attempted phonation the edges of the cord vibrated slowly up and down, but the cord, as a whole, did not move, there being no rotation of the arytenoid. The right cord was normal.

The patient has been for the last three weeks on the iodide, and is now taking sixteen grains after each meal. The effect of the remedy has been good, as the left cord shows some signs of normal excursion and his voice is considerably better than it was.

Dr. Wolff Freudenthal said that he had seen several cases similar to the one first reported. They had received large doses of anti-specific treatment, but had not improved.

Dr. W. Freudenthal reported the following case: A man, while in San Francisco in 1883, suffered severely and had some operation done on his nose. Subsequently he had seen Prof. Von Bergmann and Prof. Krause in Germany. The latter referred him to Dr. Freudenthal in 1891. The man had been seen by a number of prominent laryngologists in this city and all over the country, and had been shown to this section about ten years ago. His asthma remained unrelieved, and the man became a pronounced neurasthenic. He has also fibrinous phthisis. There is a sigmoid deviation of the septum, and this brings up the question of the advisability of operating on this. Dr. Freudenthal is against any operation.

Dr. Myles said he had exhibited this patient to the Academy of Medicine a number of years ago. At that time Dr. Jarvis had excised a portion of the septum with a clamp. It would be noticed that there was a marked collapse of the *alæ nasi* under very slight, unequal atmospheric pressure. The neurasthenic element was very marked.

### Perforation and Deviation.

Dr. J. Wright presented an inoperable case of perforation and deviation of the septum. He also presented a man who had come to his clinic a few months ago suffering from urgent dyspnea, due to subglottic obstruction. He was given a note to one of the hospitals with the request that tracheotomy be done immediately. The man had not delivered the note, and after remaining in the ward for some time he was found almost dead. A hasty operation had been done, and after the diagnosis of syphilitic perichondritis had been made the man had been put on iodide and had improved rapidly. Subsequently an immobility of one vocal cord had been noted. The case had been one of perichondritis and abscess at the beginning. The condition present now had developed subsequent to the operation, and presumably was due to an ankylosis of the crico-arytenoid articulation.

Dr. Myles said there was a decided fixation on the left side, while there was a decided outward movement on the right. The adduction was also defective. The case looked to him more like the results of perichondritis than an affection of central origin.

Dr. W. B. Johnson presented a child whom he had first examined on September 19, 1899. There had been some difficulty with the voice for about four months. At that time a papillomatous condition was present. He had removed many portions with forceps, and had made applications of fused chromic acid. He had tried finally pure formaldehyde solution, but it did not seem to do any more good than alcohol. The papillomatous masses increased. About three weeks ago there had been so much dyspnea that the patient had been intubated, and the tube left in for fourteen days.

Dr. Phillips said that he did not remember having seen a case of papillomatous degeneration in this region that had extended so high up as in this case. It was rare for the arytenoids to be involved as they were here.

Dr. Chambers said that one of his patients, a person of forty-five, had worn a tracheotomy tube for six months. In this case he had used alcohol for a considerable time. Since the tracheotomy all



medication had been stopped, and the papilloma had nearly disappeared.

Dr. Wilson said that he had presented to the Academy of Medicine about two years ago a case in which the intubation tube had fallen down into the tracheal tube, and had become fastened there, necessitating slitting up the rings of the trachea. After the child had been treated in hospital for two years he had determined to let nature take her course. The boy had been kept in the hospital a year longer, and was now practically well, the tube having been removed about one year ago.

Dr. Myles reported a case of very extensive papilloma which had been removed by a general surgeon in a hospital, and the child had died from pneumonia. He had succeeded in removing several sub-glottic growths with a specially devised forceps, diamond-shaped, after Dundas Grant's pattern. In children these growths exhibited a tendency to go away. He thought the secret of success with the absolute alcohol was to rub it in with a swab in addition to the spraying.

*Case I.*—Dr. Quinlan reported a case of bullet wound of the antrum of Highmore. The man was not aware of being injured except from a profuse epistaxis; the distance of shooting was nearly 100 feet; no evidence of external wound or even irritation of vestibule of nostril was visible, and it was only under the x-ray that the presence of bullet was determined.

*Case II.*—Dr. Quinlan presented patient with syphilitic gumma at base of tongue, that was seen first five years ago and has been under observation during this time. The patient was married two years ago and has a perfectly healthy child. The right half of epiglottis during the past six months has evidenced symptoms of slight breaking down, and swallowing has been at times difficult. General conditions good. Patient is taking iod. kal. gr. xxv t. i. d., with occasional inunctions.

*Case III.*—Dr. Quinlan exhibited a patient on whom the entire anterior wall of frontal bone has been removed for empyema (bilateral) of frontal sinus. There is a history of two former operations done in Europe, but a fistula over left eye showed the existence of dead bone. It is now six weeks since the operation has been performed and the drainage was carried on through nose for some time, but it was thought best to keep a small external wound open in order to watch the conditions better. The case promises well.

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## THE CHICAGO LARYNGOLOGICAL AND CLIMATOLOGICAL SOCIETY.

*Meeting Held July 5, 1900.*

REPORTED BY EDWIN PYNCHON, M.D.

The President, Dr. T. Melville Hardie, in the chair.

The programme for the evening consisted of a symposium on

### **Hypertrophy of the Pharyngeal Tonsil.**

The general discussion was preceded by papers presented by Drs. Norval H. Pierce, Arthur M. Corwin, George Morgenthau and Otto H. Freer.

The opening paper, by Dr. Norval H. Pierce, was a consideration of the

### **Anatomy and Pathology.**

The pharyngeal tonsil is developed concomitant with the faucial tonsils and its function is unknown. The adenoid is a hyperplasia of the normal tissue and has been claimed to be due to either scrofula, tuberculosis or syphilis, though these causes evidently do not explain all cases. Tubercular bacilli have often been found in this growth, and in one case reported tubercular infection of the bones beneath, followed by tubercular meningitis, hence we may justly assume that the relationship is close between tuberculosis and adenoid growth. Sarcoma has also originated in adenoid tissue.

The next paper, by Dr. Arthur M. Corwin, dealt with the

### **Etiology and Prognosis.**

While adenoid enlargement may be met with at any time between infancy and old age it is more common between the ages of three and fifteen. Chappell found this condition present in three per cent of all school children examined in New York City.

Owing to the small size of the post-nasal space in early years the adenoid at that time gives more annoyance than toward the age of puberty, at which time the growth seems to rapidly decrease in size.

While this trouble affects all races and is found in all climates, it is with the Hebrews as a class particularly noticeable. With city-bred children it is more common than with children in the country. While

the principal disturbance due to the presence of adenoids is mechanical, it is well known that luxurious adenoids invite bacterial involvement. Tubercular germs have been found by different investigators, and to as great an extent as in twelve per cent. of the cases examined. The apparent dullness often observed is generally due to impaired hearing.

It is wise to never delay operating when there is the slightest involvement of hearing, and the promise of relief is excellent when the operation is radically done, and the chances of recurrence are slight. The operation, in addition to cleaning the post-nasal space and improving the ear trouble, corrects the tendency to intumescent rhinitis and tends to efface the other usual characteristic phenomena. After the operation the use of the syringe or douche should be avoided and sprays, if used, should be oleaginous instead of aqueous.

Following the above paper Dr. George Morgenthau took up the question of

### **Symptoms and Diagnosis.**

The common tendency of adenoid obstruction is to result in chronic rhinitis. With the sub-acute inflammation of the adenoid tissue the patient suffers with a persistent nasal stoppage, for the relief of which blowing the nose is inefficient. From these abnormal post-nasal growths is exuded a thickened secretion which often is the cause of laryngismus stridulus. Major has called attention to carbonic acid poisoning from the impairment of respiration. The strongest indication for operation is ear trouble, and should be advised even in case of disease of the external auditory canal. After operation the various symptoms disappear and the impoverished blood improves.

The closing paper was by Dr. Otto H. Freer, being upon the

### **Treatment.**

Medical treatment has but little effect upon the size of the growth. As the pain of an adenoid operation is probably equal to that of the amputation of the thigh, the use of an anesthetic is imperative, and is even advisable during the diagnostic examination. The younger the child the more likely is reproduction of the growth, though this is slight if the removal is complete, which is always to be desired.

Operation without anesthetic is likely to react disadvantageously on account of the less favorable results. Local anesthesia by the spraying of a weak solution of cocaine is comparatively safe, though



general anesthesia with ether is the most preferable method. The use of the finger nail alone cannot be efficient when the growth is fibrous, though its use is of value to clean up after the use of instruments, particularly in the fossæ of Rosenmüller.

Hemorrhage of importance is unusual. Secondary hemorrhage from sloughing occurred in one case as late as the ninth day. After the use of the Gottstein curette it is probable that more or less recurrence follows in twenty-five per cent. of the cases operated, and thus brings the operation in disrepute with the public. The Loewenberg forceps are to be preferred and when properly used no recurrence will follow. After the use of these forceps a small bone forceps should be introduced through either nostril with the operator's finger in the post-nasal space. No after-treatment is required. The wound will best heal under the protection of the blood clot.

#### DISCUSSION.

Opened by Dr. E. F. Ingals. The relationship between the adenoid growth and tuberculosis is as yet undecided, and particularly as to which is primary and which is secondary when tubercular germs are found in the adenoid tissue. The utility of operating in all cases wherein adenoid growths exist is doubtful. An operation should only be advised when the symptoms call for it or are pronounced.

Internal treatment is to be advised and is sometimes efficient, particularly when hydriodic acid is exhibited. I always give a general anesthetic with trepidation. As an anesthetic in these cases nitrous oxide followed by ether is often employed. The use of oxygen gas after being passed through chloroform has been highly recommended by Kyle. My preference has been for chloroform.

Dr. J. Hollinger: Before operation a preliminary course of internal medication to improve the general condition is to be advised. In one case where recurrence followed twice after operation a cure was finally effected by dietetic regulation in combination with the administration of syr. ferri iodide. It was learned that the patient had been daily indulging in a lunch of cold sausage. After this practice was stopped the adenoid enlargement rapidly and permanently disappeared. In another case it was found that the wearing of a tight collar induced mouth-breathing, there being no nasal obstruction. After the collar was discarded normal breathing followed.

Dr. E. Pyncheon: As has been granted by one of the essayists, the etiology of adenoids is more or less clouded in obscurity. They are accompanied by a considerable amount of tenacious secretion,

and to my mind moisture aggravates the condition of the adenoidal mass, favors its growth and extension, and invites bacterial development. This is demonstrated by the fact that a tonsillotomy often tends to diminish the size of the adenoid growth simply by giving better drainage. Furthermore, atrophy often follows an incomplete removal of this growth which is explained in the same way. The apparent shrinkage which occurs at puberty is chiefly due to the increase in size of the post-nasal space, in connection with the general growth, and the succeeding improvement in symptoms is thus due to the increased ventilation and drainage of the parts.

The associate impairment of health, so often in by-gone years named scrofula, is purely secondary and due to an auto-intoxication through impaired respiration and intestinal disturbance. In my opinion the common intestinal troubles of child-life, as well as the frequent disturbance associated with teething, are largely due to lymphoid enlargement in the fauces and post-nasal space.

Dr. Corwin spoke of nasal deformities as being a possible cause of adenoids. In my opinion it is the reverse which is true and that adenoid enlargement in early years is the prime cause of the so frequently met with deformities of the nasal septum which are, in adult years, the most prolific causative factors in the production of so-called nasal catarrh, and in correcting the various deformities in the nose and upper throat I am not ashamed of being a follower of Bosworth, who has at times been decried. I believe, as rhinologists, it should be our duty and aim, in each case treated, to get these parts to conform as nearly as practicable to an ideal standard.

For a mouth-gag I must mention a recent design of Dr. A. H. Ferguson, of this city, which I now use exclusively, having side-tracked all the others, including one of my own design.

In operating under general anesthesia I cannot speak too highly of the use of the Trendelenburg position as recommended by Keen for operations in the upper-air passages. Chloroform has been the anesthetic which I have generally employed when more than a brief anesthesia was desired. The bad results reported from its use are, I believe, largely due to its having been pushed too rapidly, so the vapor accumulates while the patient is holding his breath until, by a sudden gasp, the lung tubes are filled with a too dense vapor which asphyxiates and by absorption in the blood is carried to the heart, so as to produce cardiac paralysis.

In the treatment of adenoids our only positive results are through surgical measures, and internal medication is of use chiefly to suit popular fancy and may be expected to only somewhat improve the general health.

Dr. O. J. Stein: My results with the use of nitrous oxide gas have been very favorable. The chief disadvantages in its use are the cumbersome apparatus and the number of assistants required. Later I have been using ethyl bromide, and after its use I have observed no vomiting or other unfavorable symptoms. Recently I had a case of hemorrhage which occurred one hour after operation and which was promptly controlled by suprarenal capsule extract. In operating I generally use the curette and in one case found it necessary to use a curette of extra length.

Closing the discussion, Dr. Pierce: If I may be allowed a word more I will mention two points of importance which have not been touched upon:

*First.*—Chiari's observation as to the mass of adenoid tissue lying on the floor of the nose which can be seen anteriorly, and,

*Second.*—Frankel's report of two cases in the *Archiv für Laryngologie* wherein mouth-breathing persisted after operation, owing to the fact that the lips could not be closed on account of a short labial frenum, after a section of which mouth-breathing ceased.

Dr. Freer: I regard both the diagnostic examination and operation as being in many cases difficult to execute and hence would not be disposed to trust either to a general practitioner any more than I would myself undertake a cataract operation. As to the matter of recurrence it may be said in explanation that all lymphoid tissue, when suppurating, sprouts, hence the infection of the wound tends to cause reproduction when the removal is not complete, therefore when all the adenoid tissue has been thoroughly removed no reproduction occurs.

Dr. Freer exhibited a new intra-tracheal spray extension, which was designed to be attached to a Davidson spray bottle and with which a spray could be thrown in the trachea by passing the spray tip between and below the vocal cords. In its use the usual audible sound of the spray is not heard.

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## SAN FRANCISCO SOCIETY OF EYE, EAR, NOSE AND THROAT SURGEONS.

### *June Meeting.*

The President, Dr. Henry L. Wagner, presided.

#### **Cyst on Dorsum of Tongue.**

Dr. Wagner presented a man, aged seventy-four, who had consulted him, complaining of severe pain, as of a fish-bone, on the left side of the dorsum of the tongue, but nothing was visible to account for it. On the following day there was a little redness. A week later a *bluish cyst* had formed which gradually became opalescent, and now, in three weeks, is two centimeters long by one centimeter wide and still transparent at its center. The President asked the members for a diagnosis, but none was given.

Dr. Redmond Payne presented a case of

#### **Affection of the Cavernous Sinus with Objective Tinnitus.**

Three years ago an insect got into the right ear, and the patient's efforts to remove caused bleeding from the ear with much swelling and pain. Chronic purulent discharge followed, and two months later a clicking sound which was not synchronous with the pulse, movement of the jaw, or any other movement of the adjacent structures. It would last only a minute or so, but occurred several times a day. Two years later the case was seen by Dr. Powell, of Sacramento, who did an ossiculectomy.

A few months later patient was seen by Dr. Powers of this city, who did a simple mastoid operation, which failed to relieve an intense pain suffered by patient and referred to the ear. The seat of this pain was then located by Dr. Powers at a point on the posterior wall of the ext. aud. canal. Dr. Powers then chiselled away this part of the wall without relief. On both occasions, while patient was under the anesthetic, a marked varicose condition of the veins of the right brow and eyelids was noticed. A right facial paralysis also developed about this time.

Some weeks later the patient came under the care of Dr. Payne. He was then in a delirious condition, having been found wandering about town. Temperature 101°; pupils widely dilated: and the right papilla hazy, suggesting the beginning of papillitis. There

was an unhealed wound of the right mastoid, a purulent discharge from the right ear, the tissues of the right eyebrow swollen, the veins varicose, eyelid somewhat swollen, but no exophthalmos, and a right facial paralysis as at present. At this time the clicking sound could be heard fifteen feet from the patient. It was occasionally heard in the left ear also, but only a few inches away.

The conditions continuing, after several weeks Dr. Payne did a complete Stacke operation, curetting out a lot of softened bone from the apex, antrum and attic. The sigmoid sinus was exposed for about one-half inch. There was no pulsation, but as the wall appeared clean and healthy and the jugular vein did not appear corded, the sinus was not laid open. The wound healed very well, and the clicking sound has entirely ceased in the right ear, but the patient still hears it. At present there is a more or less deep-seated pain in the right ear and over the right brow, a low grade of fever most of the time, but always under  $100^{\circ}$ , and sometimes  $99^{\circ}$ . There have been no rigors, and no especial sweating. There is a marked and permanent varicose condition of the veins of the right eyebrow, and the retinal veins are very tortuous. Vision R.  $\frac{20}{400}$ . The veins of the brow and retina being branches of the ophthalmic vein, Dr. Payne suggests a possible partial thrombosis of the right cavernous sinus and an established collateral circulation, and that perhaps this venous current might be indirectly affected through obstruction of the superior petrosal sinus at the point where it empties into the sigmoid sinus. The question he wished to ask is: Is the trouble the patient now suffers directly or indirectly due to the trouble in the sigmoid sinus, and is an operation upon the latter indicated?

#### DISCUSSION.

Dr. Eaton thought the appearance of the retinal veins, the varicose veins, together with the history, indicated thrombosis of the right cavernous sinus. He had seen the peculiar condition of the fundus in a case of his own in a patient with septic endocarditis. He recalled the case of thrombosis of the retinal veins published a number of years ago by Knapp, and thought the appearance of the fundus in this case similar to it.

The President said he considered the appearance unlike that of Knapp's case.

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## ABSTRACTS AND BIBLIOGRAPHY.

Arranged and Edited by  
**FAYETTE C. EWING, M.D., St. Louis,**  
with the collaboration of the  
**EDITORIAL STAFF.**

It is our purpose to furnish in this Department a complete and reliable review of the world's current literature of Rhinology, Laryngology and Otology.  
Authors noting an omission of their papers will confer a favor by informing the Editor.

### I. NOSE.

**Myiasis Narium—Maggots in the Nose—F. G. CORBIN, Mendoza,**  
Argentine Republic—*Montreal Med. Jour.*, February, 1900.

*Case I.*—The patient, foreman of a beet factory, aged forty, complained of intense pain in right ear and parotid region. Examination showed only a slight redness and fullness of right tonsil and soft palate, with no discharge or swelling. The following day, the right side of the face was swollen, and a maggot of a whitish-yellow color, half an inch long, without feet, segmented, with a small dark spot near the posterior extremity, was removed from the nose. This corresponded with the larva of the *hucilia hominivorax*, or blue bottle fly. The day following the patient was unable to breathe through the right side of the nose, and a mass of about fifty maggots, with foul muco-pus, was removed. This relieved the pain. These maggots were alive after immersion in alcohol for one hour. The day after a white exudation appeared on the soft palate, from the edge of the hard to the right of the uvula, which was diphtheritic in appearance. On the fifth day the soft palate sloughed, leaving an aperture corresponding to the extent of the membrane, and through this another lot of larva made their way. These lived in hydrag-bichl., 1 in 1,000 for 60 minutes; in carbolic acid, 1 in 20 for 70 minutes; in alcohol for 95 minutes, and in pure chloroform for 1 minute. The patient improved for twelve days, when an abscess appeared behind the right posterior faucial pillar. The abscess was opened and eighty maggots with pus evacuated. The patient's recovery then proceeded unimpeded.

*Case II* presented a swelling of face and nose, with great pain. Eight maggots came away after washing with chloroform solution.

*Case III.*—Under charge of Dr. de la Sota, had suffered from epistaxis from childhood, with a bad odor frequently. Two nights previous to his visit to the physician, he had slept in the paddoches of the city slaughter houses. He had awakened early with sneezing, and blood clots in the nostrils, and a kind of pricking in the nose and toward the forehead, only relieved by sneezing. The face became swollen on the left side, involving his eyelid. The patient acted as if intoxicated, and there was a bloody foul smelling fluid running from the left nostril. This individual threw off over 250 maggots, all living and was cured by chloroform inhalations. GIBB WISHART.



## II. MOUTH AND NASO-PHARYNX.

### Remarks on Bad Odor From the Mouth—B. FRÄNKEL—*Archiv für Laryngol.*, Band x, Heft 1, 1900.

After remarking on the frequent necessity for deciding as to the source of bad odors, the author mentions Zwaardemaker's instrument for this purpose. He, however, has had no experience with it, and says that his own method is as follows: A piece of stiff paper is held against the patient's upper lip and he is instructed to breathe with closed mouth, first through one nostril and then through the other, while the physician's nose is approximated to that of the patient. If the odor is found not to come from the nose, then both nostrils are closed and the patient is instructed to breathe through the mouth. If the odor comes from the mouth, and it is certain that carious teeth are not the cause, then the author takes a small tampon of cotton on a cotton carrier and touches various portions, smelling of the cotton after each application. In this way it is often possible definitely to locate the offending spot. The tonsils are frequently found to be at fault, where distended lacunæ are filled with cheesy, ill-smelling matter. These lacunæ should be split up. If the tonsil is badly affected it should be removed. The recessus tonsillaris is often the seat of trouble, for pockets are frequently found there filled with a decaying mass of detritus. In this case the plica tonsillaris should be divided so as to destroy the fossa.

In case the odor comes from the esophagus and the deeper air passages, daily washing out as far as possible with some germicidal remedy which also acts as a deodorizer may be practiced.

Care should be taken when a patient comes complaining of a bad breath to ascertain whether there really is an odor to the breath, for many cases of sensory disturbance will be met with. VITUM.

### On a Case of Retropharyngeal Abscess of Auricular Origin—NOLAND MELZI—*Jour. L., R. et O.*, January, 1900.

This complication occurred in a child two years of age, following a coryza and bronchitis. The patient complained of pain in throat and refused to take food. On examining the pharynx, an enormous retropharyngeal abscess was found. A large quantity of pus was evacuated. No disease of the vertebræ was discovered. A bacteriological examination of the pus of the abscess and of the ear was made, and the same bacteria was seen. In a few days the condition of the throat improved, and at the same time, the ear discharges ceased.

M. D. LEDERMAN.

### Salivary Calculus—FRIEDRICH HANSZEL—*Wiener Klin. Wochenschr.*, February 15, 1900.

The author reports three cases and gives the views of a number of writers as to the etiology of these concretions. No definite conclusion is reached however. VITUM.

**Operation on the Pharyngeal Tonsil; Hæmophilia; Death—**

RICHARD SACHS, Hamburg—*Journ. L., R. et O.*, February, 1900.

The operation was performed under chloroform anesthesia, upon a boy, ten years of age. A modified Gottstein-Beckmann's curette was used, and a piece of the pharyngeal tonsil as large as a walnut was removed. The bleeding ceased in a short time, and the patient left the office with his father. At six o'clock in the evening, the hemorrhage was profuse, and the operator found the child very weak with blood running out of both nostrils. Tampons of iodoform gauze were placed in both nasal chambers and the bleeding seemed to stop. In two hours the child was again visited and blood still flowed. Fresh tampons were introduced, this time saturated with a fresh ferric chloride solution. The hemorrhage was checked temporarily, but in two hours it reappeared, and the patient had fainted several times. Stimulants were given by mouth; anterior and posterior tampons were introduced, and transfusion was practiced, together with a two and a half per cent gelatine added to the usual salt solution, but the bleeding never ceased and the child died.

Six months previous to the operation the boy had a tooth extracted, and four days passed before the bleeding was controlled. The father died at the age of forty-two from a parenchymatous bleeding of the kidney. The author only learned of the hæmophilic history after the operation.

M. D. LEDERMAN.

**Operation on the Pharyngeal Tonsil; Hæmophilia; Death—**

GIBB WISHART—*Canada Lancet*, March, 1900.

In an editorial comment upon a case reported by Sachs (*Journal of Laryngology, Rhinology and Otology*, February, 1900), the writer states that it is questionable whether the surgeon is ever justified in operating upon these growths, except where the patient can at once be put to bed, as cannot be the case in operations in a private office, as in the out-service of a hospital. The operation should not be styled a "minor" one, on account of the liability to accidents, and the serious sequelæ of these.

GIBB WISHART.

**Quinsy in Children—ADOLPH O. PFINGST—*Louisville Monthly Journ. of Med. and Surg.*, March, 1900.**

W. SCHEPPEGRELL.

### III. ACCESSORY SINUSES.

#### The Diagnosis of Chronic Empyema of the Maxillary Antrum

—G. HUNTER MACKENZIE—*The Scottish Med. and Surg. Journal*, April, 1900.

After referring to the usual symptoms and signs associated with chronic suppuration in the maxillary antrum, the author draws attention to the possibility of pus existing in that cavity without anterior purulent nasal discharge. He reports two cases of clinical interest: in one there was posterior nasal discharge only, in the other there was no discharge either from the anterior or posterior nares, but there existed a disagreeable odor perceptible to the patient only and localized by him in the left nostril. Case I was that of a lady in whom pus was detected in the posterior nares and naso-pharynx, but no discharge could be seen on anterior rhinoscopy. Transillumination indicated a distinct darkening of the left cheek as compared with the right, and on exploratory puncture pus was found in the left antrum. Case II was a man who complained of a disagreeable odor of a somewhat persistent nature. There was not nor had been any discharge, either anteriorly or posteriorly, and none was visible on examination. Transillumination showed opacity of the left cheek and pus was found on puncturing.

A. LOGAN TURNER.

#### Treatment of Chronic Empyema of the Antrum by Resection of the Upper Part (Pars Supraturbinalis) of its Nasal Wall

—SIEBENMANN, Basel—*Münchener Med. Wochenschr.*, January 2, 1900.

At a meeting of the Society of South German Laryngologists held at Heidelberg, April 3, 1899, the author read a paper on the above subject. In cases of chronic empyema where it is not advisable to open through the alveolar process on account of sound teeth, the author advocates the following procedure: After proper cocaineization, the little finger is pressed firmly and with a boring motion into the middle meatus. With the tip of the finger and the nail, the wall of the antrum is then crushed in and slit open so that a passage about  $1\frac{1}{2}$  ctm. high and 2 ctm. long is made into the cavity. The finger can then be passed into the antrum and any thickened pulpy membrane rubbed off. The operator should use the little finger of the right hand to penetrate the right antrum and that of the left hand for the left antrum.

As this procedure usually causes an abundant hemorrhage, it is generally necessary to introduce a tampon, which may be allowed to lie for four days. At the end of that time, splinters of bone, shreds of torn mucous membrane, etc., may readily be removed by the cold snare or with forceps.



In this operation the middle turbinal need not be removed unless it is very much enlarged, or unless its removal is demanded by suppuration of the sinuses lying above. A wound of the lachrymal duct is not to be feared, inasmuch as it is situated in the most anterior portion of the pars supratubinalis.

One great advantage of the large communication thus established between the nasal cavity and the antrum is that the patient can easily learn to use the douche himself and can thus wash out the cavity frequently. The author reports five cases treated in this way. In case the entrance to the nostril is absolutely too small to admit the finger, a sharp spoon may be used.

VITUM.

#### IV. LARYNX AND TRACHEA.

**Chorea Laryngis**—A. ONODI—*Archiv für Laryngol.*, Band 3, Heft 1, 1900.

This paper is an attempt to suppress the term laryngeal chorea as misleading and unscientific. The author begins with a review of the history of chorea in general and a statement of our understanding of the word to-day.

He then cites from personal letters written him by many of the most distinguished laryngologists in Europe as to what they understand by the term "chorea laryngis."

The consensus of opinion seems to be that Schrötter's use of the term is wrong; that the spasmodic coughs and involuntary sounds emitted by the larynx cannot be considered as indicating chorea of that organ. If the term is to be used at all, it should be restricted to those cases where we can see in the laryngoscope an arhythmic jerking movement of the muscles which move the vocal cords. These muscles seem to be in a state of unrest and constantly concerned in those twitching movements which we are accustomed to regard as choreic.

Even to these cases the author would apply the term "choreic movements of the vocal cords."

VITUM.

**Epithelioma of the Epiglottis and Larynx**—H. GRAY CROLY—*Dub. Med. Journ.*, April, 1900.

Mr. Croly showed a male patient forty-two years of age with a malignant growth upon the epiglottis. After tracheotomy there was considerable decrease in the size of the swelling, a similar change having also taken place in the size of the enlarged cervical glands.

A. LOGAN TURNER.

## V. EAR.

**Sarcoma of the Mastoid**—STEPHEN A. LUTZ—*Brooklyn Med. Jour.*, February, 1900.

The patient was a boy nine and one-half years of age, who complained of pain in the left ear, which gave off an offensive discharge of thick pus. Some granulations had been previously removed by the family physician, but there was considerable growth in the canal, obscuring all view of the membrane. The reporter removed some of the tissue and cauterized the base of the growth. In three days the canal was again filled with the tissue. Under cocaine the mass was thoroughly curetted and the site touched with chromic acid. Several spots of bare bone in the middle ear could be felt. This mass of tissue repeatedly returned, so the mastoid was opened, and found to contain a foul-smelling mass of granulations and pus. The facial nerve was damaged, and paralysis appeared, which later improved. The bone cavity was carefully cleansed and good drainage established.

The parotid gland became involved and an incision was made, giving exit to a gelatinous mass. A month after the operation the growth from the mastoid continually increased in size until it assumed a considerable size. The left tonsil was pushed beyond the median line of the throat.

The microscopical examination revealed a small round-celled sarcoma, with a number of giant cells. M. D. LEDERMAN.

**Endothelial Fibro-Angioma of the External Auricular Meatus**—

URBANO MELZI—*Jour. of Laryng.*, Milan, January, 1900.

On account of the histological structure of the tumor (endo and perivascular endothelium participating in a connective tissue neoplasm) this growth is unique.

The patient was a girl, twenty-two years of age, who appeared with a copious discharge of pus. On examination, the growth (about the size of a pea) was found in the left external auditory canal. It was reddish-brown in color, irregular and knotty in appearance; was movable and sprang from the postero-superior wall of the canal. A copious hemorrhage followed its removal with the snare, but a compact tampon of iodoform gauze checked the bleeding.

A detailed history of the microscopical examination is given, showing its benign nature. The site of the growth was scraped and cauterized. The discharge ceased and the patient was discharged cured. LEDERMAN.

## VII. NEW INSTRUMENTS AND THERAPY.

**Laryngeal Papilloma Requiring a Special Instrument**—SETH SCOTT BISHOP, Chicago—*Jour. Amer. Med. Assn.*, June 16, 1900.

The patient was fifty years of age. He had had periodical loss of voice previously to, and complete aphonia since, November, 1898. Laryngoscopic examination disclosed the conditions shown in figure 1. The



Fig. 1.

anterior commissure was filled by a pale pink mass resembling pharyngeal adenoids. On each vocal cord was a gray, wart-like papilloma, so situated as to bring the anterior surface of the left against the posterior surface of the right. In attempting to remove the growths it was found that the longest laryngeal forceps obtainable would reach only the upper portion. Then a special forceps was made (figure 2) with

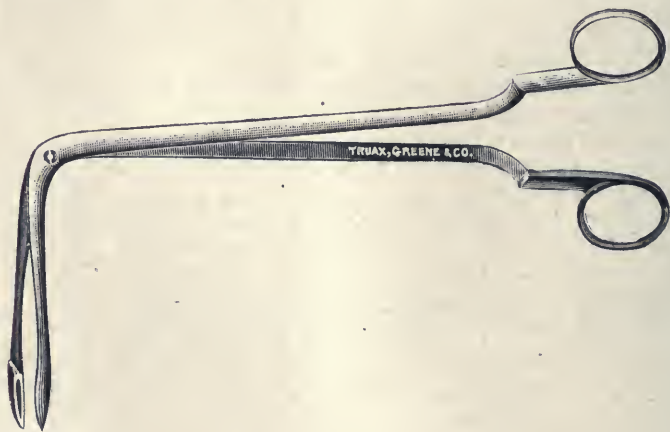


Fig. 2.

blades three-quarters of an inch longer. With the special instrument the remaining masses were readily removed. Beneath the right vocal cord an additional growth was found which it was necessary to remove.



Three months after the operation the patient reported the voice quite normal. Figure 3 shows the growths removed by Mackenzie's

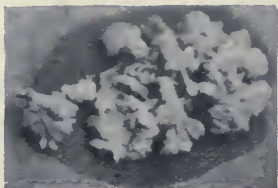


Fig. 3.



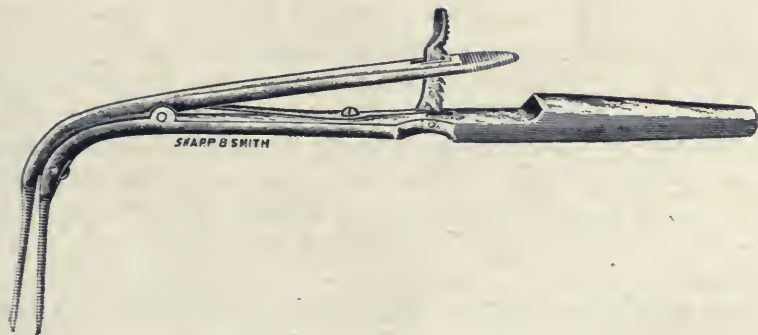
Fig. 4.

instruments. Figure 4 shows the growths that could be removed by the special instrument only.

ANDREWS.

**Intubation of the Larynx**—CHAS. J. WHALEN, Chicago—*Jour. Am. Med. Assn.*, June 2, 1900.

In making a choice between tracheotomy and intubation in private practice the author gives intubation the first place because it is less formidable and can be done by the country practitioner alone. It is unfortunate for patients that physicians rely so much on specialists in the



Whalen's Introducer and Extractor.

treatment of their acute laryngeal cases. The author gives the indications for intubation, and very carefully describes the procedure both of introducing and extracting the tube. After pointing out the defects of the instruments already in use for intubation, a new instrument is presented which certainly overcomes many of these defects.

ANDREWS.

## BOOK REVIEWS.

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**Diseases of the Chest, Throat and Nasal Cavities.** BY E. FLETCHER INGALS, A.M., M.D., Professor of Diseases of the Chest, Throat and Nose, Rush Medical College, etc., etc., Chicago. Fourth revised edition, pp. 780. Cloth, 255 illustrations. Wm. Wood & Co., Publishers, New York. Price, \$4.00.

We think the department in this work devoted to the chest is more satisfactory as a whole than that discussing the nose and throat, and in this connection may point to the fact that the changes in this and the preceding (Third edition) have been mostly in the affections of the thoracic cavity. The book would serve the purpose of the specialist better if more space were devoted to operative procedure. We would also prefer to have had the author more positive and specific in the treatment of certain unsatisfactory diseases for which there is usually recommended a legion of remedies.

With this said, we can heartily commend the work as one that contains the latest accepted knowledge for the busy practitioner. The repeated editions would seem ample evidence that it supplies a want. Though there are many physicians who treat the ear, nose, throat and chest exclusively, this, we believe, is the only work that combines these subjects in discussion.

F. C. E.

**Injuries to the Eye in their Medico-Legal Aspect.** BY S. BAUDRY, M.D., Professor in the Faculty of Medicine, University of Lille, France, etc. Translated from the original by Alfred James Ostheimer, Jr., M.D., of Philadelphia, Pa. Revised and edited by Charles A. Oliver, A.M., M.D. With an adaptation of the Medico-Legal Chapter to the Courts of the United States of America, by Charles Sinkler, Esq., Member of the Philadelphia Bar. 5½x7½ inches. Pages, x-161. Extra Cloth, \$1.00 net. The F. A. Davis Co., Publishers, 1914-16 Cherry st., Philadelphia, Pa.

This little volume is of especial interest to those of our readers who are engaged in ophthalmic practice. It contains many original notes and items.

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# THE LARYNGOSCOPE.

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## ORIGINAL COMMUNICATIONS.

(Original communications are received with the understanding  
that they are contributed exclusively to THE LARYNGOSCOPE.)

### VIBRATORY MASSAGE IN THE TREATMENT OF PROGRESSIVE DEAFNESS, WITH ESPECIAL CONSIDERATION OF MY ELASTIC PRESSURE-PROBE.

BY PROF. DR. A. LUCAE, BERLIN.

Translated by M. A. GOLDSTEIN, M.D., ST. LOUIS.

About sixteen years ago I introduced a method of direct mechanical therapy<sup>1</sup> in the treatment of those forms of chronic catarrhal otitis media nomenclatured "sclerotic," which had until then resisted all forms of treatment.

I instituted this mechanical test in an experimental way for about one and one-half years before publishing my results. My results have been so satisfactory, especially in the earlier stages of this class of cases, that I am now fully convinced of the efficacy of such procedure. It is an additional satisfaction to observe that equally good results have been obtained by many of my confreres who have adopted this technique.

It is true that the results of this technique were not as quickly achieved as those of the Politzer method, perhaps because Politzerization can be easily and successfully applied by the intelligent laity and even by the patient himself, while the pressure-probe requires the hand of a skillful specialist and practice in its application.

Concerning the difficulties in the application of these methods, my pressure-probe stands in the same ratio to pneumatic aural massage as does the use of the Eustachian catheter to Politzerization.

The question of pneumo-massage dates back many years to the physiological researches of the ear in the cadaver, as undertaken by



Politzer,<sup>2</sup> Helmholtz<sup>4</sup> and myself.<sup>3</sup> In these investigations the mechanism of the ossicles was determined by compression and suction, via the auditory canal. Special attention should be directed to the results obtained by G. Herman Meyer,<sup>5</sup> namely, that with the excursions of the membrana tympani both malleus and incus turn about the same horizontal axis, pivoted by the long process of the malleus and the proc. brevis of the incus. As this axis traverses the hammer at the base of the proc. brevis, it follows that during an inward excursion of the membrana tympani the handle of the malleus is likewise drawn inward, and the head of the malleus, body of the incus and proc. brevis of the malleus are forced outward.

These movements of drum membrane and ossicles can be verified in the normal ear by the application of the Siegel pneumatic otoscope, as can also the principles first observed by Helmholtz that the enumerated parts of the malleus are very limited in their movement compared to the frequent movements of the membrana tympani. It follows, therefore, that in pathological fixation of the sound-conducting apparatus, pneumo-massage can be of but small value, because in such cases the movements of the malleus in their relation to those of the drum membrane are still more limited; this is especially true in atrophy, large cicatrices of the drum membrane and in many cases, as I have observed, in the long-continued use of the air douche, resulting in a gradual relaxation of the drum-membrane.

These preliminary remarks were necessary to induce a better appreciation of the mechanism of my pressure-probe, which has as its special feature the mobilization of the chain of ossicles by means of direct mechanical pressure.

There are three main factors here to be considered:

*First*—An effective, mechanical point of application.

*Second*—The sensitiveness of the membrana tympani.

*Third*—An instrument suitably constructed to meet the requirements of the leverage of the ossicles.

From a purely mechanical standpoint it appeared most effective to apply the pressure directly to the malleus, with the umbo as the point of election. This, however, was contra-indicated, owing to the extreme sensitiveness over the entire area of the membrana tympani, producing thereby small ecchymoses and hemorrhages. The sole exception to this seemed to be the proc. brevis.

Another reason why the proc. brevis, from a mechanical point of view, offers a favorable point of application is that the tendon of the tensor tympani is inserted at a point almost opposite it, and that the function of this muscle is to assist not only in the

vigorous retraction of the membrana tympani, but also in that of the entire chain of ossicles.

In the construction of this instrument special consideration was given to the fact that the chain of ossicles represented an elastic lever, and this was most effectively accomplished by adopting the principle of a car "buffer."

The advantage of such an instrument is that it guards the *proc. brevis* from injury. For, when once brought into contact with the *proc. brevis*, the pressure-probe is easily retained in place. By means of the spiral spring contained within the handle of the instrument the desirable number of vibrations can be executed.

In the healthy ear the entire chain of ossicles, from malleus to stapes, is thus put in vigorous vibration, as determined by my experiments on an ear specimen, taken from a normal, healthy adult, described in my earlier communication on the subject.<sup>6</sup>

By these investigations it may also be proven that the entire ossicular chain executes a turn whereby the tendons of this movable axis are forced inwards.

In exceptional cases, where a narrowing of the external auditory canal prevails, the pressure-probe may engage the *proc. brevis* in a deep acute angle, so that the handle of the malleus is forced outward when positive pressure is applied.

This constitutes the principal point of difference in the effects of the pressure-probe from those obtained by the pneumatic masseur and thus enables us, by frequently executed vibrations produced by the pressure-probe, to loosen these adhesive bands, and occasionally obtain marked improvement in hearing with the first treatment; under similar circumstances I have never been able to determine such improvement with the pneumatic masseur.

I also desire to demonstrate how these two methods can be most advantageously combined.

I would observe that the following experiments were made in ears which, *in vivo*, possessed normal hearing, and were further verified by the fact that they were observed in patients at my clinic who died of the effects and sequellæ of unilateral suppurative otitis media.

Researches, like Ostmann's<sup>8</sup>, conducted on normal ears, where data are lacking, can possess but relative value. Furthermore, Ostmann verifies my previous claims<sup>6 and 7</sup>, as follows:

"The application of the Lucæ pressure-sound is especially indicated in those cases of ankylosis of the ossicles where the membrana tympani is relaxed; pneumo-massage should be used where

the membrana tympani is tense and difficultly movably, and especially when it is determined that the application of the pressure-sound produces a tension of the ossicular tendons."

In the course of years I have made numerous modifications and improvements in the pressure-sound, producing an easier, smoother movement of the piston to spare the patient unnecessary pain.

In place of the former guide-tube, where rust accumulated through infrequent use, I substituted a narrow metal frame, *b, c, d*. This frame produces less friction, and small defects can be readily determined and removed, without the necessity of taking the instrument apart (by loosening screw *e*).



Lucæ's Pressure-Probe. (Latest Model.)

I have also graduated the elastic force, estimating same in grammes, and in the latest model (see illustration) a graded pressure, scaled from 100 to 300 grammes, can be obtained by regulation of the screw *f*.\*

I convinced myself, by using a pressure of 300 grammes on two normal ear specimens, that the tendons and ossicular bands remained uninjured, and therefore do not hesitate to apply the same force in pathological conditions. I particularly emphasize, however, that in the majority of cases the pressure should be restricted to 100 to 200 grammes; occasionally this may be increased to 250 grammes, and very rarely, where strong adhesions have occurred, I use a pressure of 300 grammes.

I would call attention to the fact that during my experimentation with ear specimens I purposely applied strong pressure to the proc. brevis with a small anatomical tubulus, and thereby ruptured the malleo-incus capsule; such untoward result need not be feared in pathological conditions where the protecting spring of the pressure-probe is brought into use; if, however, the piston is adjusted to the point *b*, whereby it becomes rigid, and rough pressure directed against the proc. brevis, a similar injury may ensue.

\* This instrument can be obtained, made according to my directions, of R. Detert, 9 Carl Strasse, Berlin, Germany.



Prior to the application of the instrument, the terminal disc should be covered with a thin layer of cotton fastened with a little collodion. The cotton should be evenly distributed over the surface, and the concavity of the disc also shaped out with a layer of cotton.

Cold is a most useful agent to lessen the sensitiveness of the application; a freezing mixture of ice and salt is prepared, and a ten per cent aqueous solution of cocaine frozen in it; the end of the pressure-sound is immersed in this cocaine solution for several minutes. The cocaine solution should be frozen to the consistency of snow. Occasionally on withdrawal of the instrument from the mixture small crystals will adhere to it, and these assist in producing the anesthetic effect.

Of even more importance than these details are: 1. The fixation of the patient's head, preferably by some form of head-rest. 2. The skill of the operator.

A steady hand and eye are required to apply the instrument to the *proc. brevis*, and a light alternate forward and backward movement of the handle of the probe produces the necessary massage mechanism.

In catheterization, the disagreeable sensations to the patient are soon overcome by repeated applications. I offer the assurance that in the treatment of hundreds of patients, even without the use of the previously described anesthetic, that the application of the pressure-probe is better tolerated than the use of the Eustachian catheter. Sensitiveness varies greatly with the individual, and depends not only on the fretfulness and nervousness of the patient, but also on anatomical conditions.

In general it may be said that the steeper the vertical plane of the *membrana tympani* the more easily tolerated is the application of the pressure-sound. When the *proc. brevis* lies in close proximity to the periphery of the *membrana tympani* (which is frequently the case) it is almost impossible to avoid touching the *membrana tympani* with the probe, and the application becomes painful to the patient. If the position of the *membrana tympani* is nearer the horizontal (fœtal) plane, which occasionally occurs in adults, or if there is considerable retraction of the *membrana tympani*, the application of the instrument is difficult, and the tip of the probe easily slips downward, usually producing small ecchymoses. These slight hemorrhagic points are of but little consequence, yet the treatment must be suspended until they have disappeared. There may also occasionally be a narrowing of the external auditory canal, which likewise offers difficulty in the manipulation of the pressure-probe.

It may be of diagnostic interest to note that in nearly all bilaterally affected cases the sensitiveness to the pressure-probe is greater on the worse ear; this is probably due to the greater impairment of the sound-conducting apparatus and the more resistance offered to the probe; even subjectively this difference in resistance can be determined by the touch of the operator. This is a point of vantage not found in any other form of mechanical massage.<sup>9</sup>

For the continuance of the treatment the local reaction after the first application is our guide. If the probe has been properly applied, we observe, after application of cold, a paling of the area about the *proc. brevis*, soon followed by a characteristic redness, frequently extending to the manubrium, the periphery of the *membrana tympani* and to the upper wall of the external auditory canal. As a rule this redness disappears within twenty-four hours, and the massage can be continued if desired. Should the redness persist for a longer time, as I have frequently observed where small *exostoses* are found near the *proc. brevis* and at the periphery of the *membrana tympani*, the massage treatment must be temporarily suspended.

I have also observed as an objective symptom that a spontaneous profuse lachrymation occurs, even where no pain has been evident during the application; I have not yet been able to determine the cause for this.

Regarding prognosis, we may say in general that the large class of cases in the earlier stages give promise of good results.

Our best results are obtained in cases where a decided improvement in hearing follows the first application, as so often observed in hypersecretory middle-ear catarrh following air inflation.

As the result of many years' observation and rigid testing, I offer a favorable prognosis in that class of cases where the whisper-voice can still be heard at a distance of from one to two meters and where the perception of tones of the tuning-forks in octaves, C to C<sup>5</sup> is still relatively good. If, in addition, we have Rinné +, we may, in the majority of cases, expect not only a prompt but also a permanent improvement.

With Rinné—, where improvement is not as generally noticed or as permanent as with Rinné +, the treatments must be continued from time to time.

Under Rinne + I do not include the *absence* of Rinné's test, as very seldom noted in cases of far-advanced deafness, but only that class of cases where the interval of hearing for the tuning-fork is shorter over the mastoid (bone) than at the meatus (air); the greater the

difference of the interval in favor of air-conduction, the more favorable the prognosis.

As ordinarily practiced, in determining the relations of bone to air-conduction, the tuning-fork is set in vibration simply by striking it against some resisting surface, and where the differentiation is not very decided, the result is frequently inaccurate. To secure greater accuracy in the determination of these important tests, I use a small, specially-constructed C tuning-fork, with spring-hammer attachment and weighted to prevent overtones.

It has been suggested that an international system of abbreviations should be used in enumerating these results, viz.: M (proc. mastoid) for bone conduction; A (aer) for air conduction; V (vox) for spoken voice.

The time limit for this special tuning-fork, as determined by tests in a large number of normal adult ears, established the following averages: hearing by bone conduction over mastoid process (M), 18 sec.; hearing by air conduction at meatus (A) 50 sec.

To establish the same standard in testing for the tone series in octaves No. C<sup>5</sup>, I use a large C<sup>4</sup> tuning-fork, constructed in similar manner with spring-hammer attachment; by chance I determined in this larger fork this same standard time limit for air conduction (50 seconds).\*

To illustrate, I enumerate three groups of cases where the purposes may be considered respectively (a) good, (b) moderate and (c) unfavorable.

*Group I.*—Before treatment: Whisper, 2.5 meters; C t. f., mastoid, 18 sec., air 38 sec. After one month's treatment: Whisper, 6.0 meters; C t. f., mastoid 18 sec., air 50 sec. C<sup>4</sup> t. f., air 43 sec.

*Group II.*—Before treatment: Whisper (numbers), 1.5 meters; C t. f., mastoid 41 sec., air 20 sec. C<sup>4</sup> t. f., air 31 sec. After treatment: Whisper (numbers), 4.0 meters. No improvement noted with tuning-fork tests. I have previously observed that where Rinné — is established, the prognosis is less favorable and results unstable. However, in one case I have found improvement, permanent for six years.

*Group III.*—In all cases where musical tones, especially high-tones, are imperfectly perceived, and where the special tuning-fork, C<sup>4</sup>, is heard but from five to ten seconds, and where the hearing distance for the whispered voice is less than one meter, the prognosis is always unfavorable.

\* This tuning-fork may be obtained of R. Deters, 9 Carl Strasse, Berlin, N. W.



There are some cases where the pressure-probe is ineffective and where the immediate use of the catheter produces improvement. Then, too, as considered in Group II, where the application of the pressure-probe, similar to the use of the ear-douche, produces a decrease in hearing; this, however, as determined by Jacobson, is again remedied by the use of the catheter, the resulting improvement being greater than the condition prior to treatment, even also in such cases where the catheter alone had been previously employed.<sup>10</sup>

The method of treatment depends upon the individual case. As a rule, where improvement follows the first treatment, the applications should be regularly continued as long as improvement is noted. When improvement takes place more slowly, and where a relatively good tone-perception is indicated, the application of the pressure-sound should be continued for eight to ten days, and the further treatment should depend upon the results of these applications. It is an interesting and striking fact to observe that frequently a single application of the pressure sound results in permanent improvement.

The consecutive number of strokes of the pressure probe varies with the individual case at hand. In the first sitting not more than two to five strokes should be attempted, and this number should be gradually increased in subsequent sittings. Formerly I increased the number of strokes per sitting to 100; recently I have rarely been compelled to go beyond twenty-five. I would also observe that generally the placing of the probe in position causes the patient some inconvenience, but that the vibrations which follow, even where increased pressure is used, are well borne.

The subjective symptoms observed in this technique are similar to those noticeable in the ordinary treatment of chronic hypersecretive otitis media by means of the air-douche. Very frequently, therefore, permanent relief or amelioration of tinnitus aurium is effected; in most cases, however, even where improvement in hearing is definite, the tinnitus aurium remains unchanged; in exceptional cases I have even noted a temporary increase of the subjective noises after application of the pressure-sound.

In conclusion, I desire to record several observations concerning pneumo-massage, which, as before indicated, finds its best application in conditions of rigid membrana tympani. This is most effective when preceded by the application of the pressure-probe, whereby the vibrations of the drum membrane can be more effectively and gradually transmitted to the malleus.

Where exclusive pneumo-massage is used, and I refer to the small masseur of Delstanche<sup>11</sup>, I have noticed distinct improvement in a number of cases of beginning sclerosis; yet I have never found improvement in advanced cases of sclerosis where pneumo-massage is used alone, either the hand-masseur or the electro-motor. These observations have been made during the past three years in a series of cases where, to avoid hyperemia, I have been especially careful to observe the precaution not to insert the masseur absolutely air tight into the auditory canal.<sup>12</sup> In one case in which an air-tight fit of the masseur into the ear was effected, there was a marked decrease in sound perception.

To produce an even pressure in using the masseur I have found it practicable to puncture the rubber fitting of the apparatus close to the ear by a small hole made with a red-hot needle. This precaution is especially valuable where the electro-masseur is used and where the vibratory movement of the drum membrane is rapid. In a number of cases where this accessory opening was not made, the patient complained of lancinating pains in the ear in addition to the noise of the instrument and the tingling sensation. This practical suggestion is also a safeguard against occasional vertigo and occasionally also vomiting, as I have observed it in especially nervous patients, even where no labyrinth complications existed. In one case I have observed that the decided increase in tinnitus lasted for twenty-four hours. In several cases it was curious to observe that the tinnitus recurred after each treatment and was transmitted from one ear to the other. A number of patients complained that they had perceived the noise of the masseur not only in the affected but also in the healthy ear.

It is rational to conclude that in the use of the electric masseur the decided increase in tinnitus and dizziness are due to the rapid vibrations thus produced in the drum membrane and the noises occasioned by the manipulation of the apparatus. These unpleasant sensations were not noticeable when the hand masseur of Delstanche was used.

It may also be interesting to observe that where the pressure-probe was used conjointly with the electric pneumo-masseur, the previously low-pitched roaring sound was followed by high-pitched tinnitus. In the experience of many otologists this change of the tinnitus note has been regarded as a favorable prognostic indication, yet, with the exception of a single case, I have never noted a permanent improvement. In this single case the subjective noises disappeared entirely after a few treatments, but there was no improvement in the hearing.

Summing up all of my experiences in this direction, I believe that eventually our best therapeutic results will be obtained by the application of the simple hand-masseur; true, the number of vibrations per second by the application of this instrument are limited, yet, on the other hand, it is free from many of the objectionable features previously enumerated, and has the additional advantage that each stroke of the masseur can be controlled by the hand.

In contrast to the observations herewith recorded, I must refer to the researches of Ostmann; of his use of the electro-pneumo-massage and of his apparently favorable results. The title of his most recent paper is "Curative Results following Vibratory Massage in Chronic Deafness. Author's abstract of paper presented at the Sixth International Otological Congress in London."<sup>13</sup> It sounds less formidable than the monograph itself "Cure, by vibratory massage of the sound-conducting apparatus, of heretofore incurable cases of deafness." As Ostmann's monograph has been published in America (see THE LARYNGOSCOPE, January, 1900, page 24), American readers will be able to draw their own conclusions by comparison of our respective observations in this field. I desire to call attention to several essential factors.

Ostmann uses an electric masseur (made by Hirschmann of Berlin) with which he obtains by means of a 2 mm. adjustable shaft and a ten-minute daily application of the instrument, a series of 1000-1200 vibrations of the membrana tympani. In one case the massage was prolonged for twenty-five minutes. He states that of all objective symptoms only a slight injection of the blood vessels about the malleus were occasionally noticeable; there were no subjective symptoms. In contrast to these results I desire to observe that I have used a similarly constructed apparatus (made by Resinger, Gebbert & Schall of Erlangen, Berlin and Vienna) of similar 2 mm. stroke and have continued the application but from two to four minutes, at most five minutes, at each sitting, and notwithstanding all precautionary measures, I have noted frequent intense hyperemia of the membrana tympani and also numerous subjective symptoms.

I would here refer to a case of a lady whom I treated by the combined use of the pressure-probe and electric masseur and who experienced no symptoms of vertigo. This I assume was due to the puncture in the tube of the masseur, previously referred to. This same patient was subsequently treated by another otologist, simply by the electric masseur and the air-tight insertion of the apparatus in the auditory canal, and experienced thereby recurring vertigo. Ostmann claims that massage therapy should never be applied in cases



complicated with labyrinth affection; I would particularly emphasize that this class of patients are included in my brief summary (Group 2) and according to our present knowledge of the subject, should not be classified as labyrinth affections.

From Ostmann's monograph we are unable to ascertain the number of cases which have been considered in his results and conclusions. He reports but four cases on which experimental tests have been made; three of chronic middle-ear catarrh, one of sclerosis. The results obtained were a diminution of the subjective sounds, but in no case was there an entire cessation of same. There was also an improvement of the lower-tone limits and the time-limits of tone perception of octaves C to C<sup>5</sup> were increased. There is no reference to improvement in hearing for the spoken voice in the first three cases; in the fourth case where, prior to treatment, spoken numbers could be heard in moderate tone and at close range to the ear, after treatment the patient could carry on a conversation at close range when louder voice was used.

Ostmann's assertion that the sound-conducting apparatus can be placed in vibration only by air-tight closure of the instrument in the auditory canal and that the slightest leak or opening would mitigate against massage, is thoroughly erroneous. In 1897 I made the claim<sup>14</sup> that practically just the converse was true, and this leads me to my concluding observation concerning the one point of advantage of the electric pneumo-masseur and that is its value in diagnosis. In a previous communication I have proven that where the Siegle otoscope is not inserted air-tight into the auditory canal the air pressure is sufficiently strong to set up an energetic vibration of the normal membrana tympani. This, in conjunction with the rapidity of strokes or vibrations, as produced by the machine masseur, produces a rhythmic vibratory movement more nearly like the natural acoustic vibrations than can be produced by the old method where the Siegle speculum is inserted air-tight into the canal and where the alternate compression and rarefaction of air is produced by the mouth or hand-pump. Since 1874 I have used a small, hard rubber, pneumatic speculum<sup>15</sup> fitted with a lens of 1<sup>1</sup>/<sub>2</sub>-inch focus, and with this the movements of the malleus and especially the active excursions of the proc. brevis may be easily noted. In the form of deafness here considered it is of great diagnostic importance to determine the relative freedom of movement of the malleus and proc. brevis in comparison to those of the free membrana tympani. These excursions of the malleus may be feeble, and even entirely absent, while the area of the

membrana tympani still vibrates freely; occasionally, as a result of adhesions, the vibrations of the membrana tympani itself may be noted only in spots; at times we may even find cases, complicated by functional disturbances, where neither the drum membrane nor the proc. brevis are seen in vibration. This diagnostic test is also well adapted to determine the improvement in the mobility of the malleus in the course of treatment with the pressure-probe.

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## A PLEA FOR AN EARLY OPERATION IN BILATERAL ABDUCTOR PARALYSIS OF THE VOCAL CORDS.\*

BY NORTON L. WILSON, M.D., OF ELIZABETH, N. J.

MR. PRESIDENT AND GENTLEMEN: In presenting this subject for your consideration, I am fully alive to the fact that I have nothing new to offer either as to the etiology or treatment of this somewhat rare but serious affection, and my only excuse is the hope that I may impress upon you, as has been impressed upon me, the fact that we must be firm and show our patients the gravity of an abductor paralysis of both cords. I therefore ask your indulgence while I recite my personal observations in this class of cases.

In the winter of 1884-'85 I saw a case in the out-door department of the Bellevue Hospital, and since I have chosen this subject for my paper I have visited that institution with the view of looking up the subsequent history of the case, and much to my astonishment I found that the record books when filled were thrown into a closet promiscuously, and the wealth of statistics buried in the dust. This is also true of other dispensaries which I visited for the same purpose. While I am aware of the amount of labor involved in keeping statistics, it seems to me that the labor already expended on record books is done for naught, if they are not kept in order for future reference.

Dr. E. Harrison Griffen, under whose care the patient came, has kindly furnished me, from his private record, the subsequent history of the case: Male, age thirty-eight, applied at dispensary for attacks of dyspnea. Had syphilis for five years. Bilateral abductor paralysis was noticed. Tracheotomy performed; patient died three months after operation from pneumonia.

I did not observe another case until the spring of 1896, when I saw one in one of the London clinics, the subsequent history of which I know nothing. The third case came under my observation in July, 1896. His sudden death made such an impression upon me that I cannot refrain from endeavoring to impress upon you the importance of tracheotomy or intubation before it is too late.

The history of this case is as follows: Mr. M., age forty-two; nativity, United States; occupation, dealer in lumber and coal; family history, negative; gave a remote history of syphilis and was somewhat addicted to the use of alcohol; has had a few attacks of

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dyspnea, especially at night, for the last eight months; voice only slightly husky; inspiration a little noisy, but expiration soundless; occasionally had headaches; ophthalmoscope showed nothing abnormal; heart and lungs normal; urine, acid and clear; specific gravity 1020; no albumen or sugar; laryngoscopic examination showed epiglottis to be normal; mucous membrane of larynx normal, vocal cords white with small slit between them during inspiration. The left vocal band was immovable in the median line; the right moved but slightly; the diagnosis of bilateral abductor paralysis was made. After he had been informed of his condition, he told me he had been under the care of a well-known laryngologist, and that he had warned him of his danger, and impressed with the idea that while it was serious an operation was not absolutely necessary.

He was advised that if seized with a paroxysm of dyspnea he must send for a doctor at once, and that it might become necessary to have tracheotomy performed. I endeavored to show him the importance of having an operation performed at once, as it might be too late if he waited until dyspnea came on. He absolutely refused operation and said he would wait. He had been taking biiodide of mercury with strychnia, and local applications of faradism during the winter, and so far as he was able to judge was not much, if any, improved. He returned to my office one week later and still refused operation, because the laryngologist, who had treated him all winter, thought there was some slight improvement. I never saw him again until three months after his first visit to me, when I was summoned to his office, and there found him dead, having died on the street. While walking to his place of business he was seized with dyspnea, sat upon the curb, clutched at his throat and ceased to breathe. A physician, who saw him after death, supposed he had died of apoplexy, and this fact leads me to think that it is probable some of these cases are never recognized, especially as the voice is but little interfered with. No autopsy was permitted.

I now believe if I had insisted upon some operation other than tracheotomy, he might have accepted it and been alive to-day.

He was an intelligent man and discussed the operation of tracheotomy, its dangers and the annoyance he would be subjected to from wearing the tube, and stoutly refused it. I have since thought that intubation, or the removal of a part of one or both vocal bands, so as to establish a continuous tubular opening, as described by our late lamented O'Dwyer in the fourth volume of the Transactions of the Ninth International Congress, might have appealed to him. Dr.

Seaman says that unless objective widening of the glottis be obtained by treatment within a short time tracheotomy ought to be performed without delay. Seventeen of the thirty-four cases collected by Burow were tracheotomized. Tobold had six and opened the trachea three times. Sir Morrel Mackenzie says electricity is seldom of any avail and he above all others considered the cause to be peripheral. In his book he gives the histories of sixteen cases and divides them as follows:

Eight cases due to disease of the post-crico arytenoid.

Four cases due to disease of the medulla.

Four cases due to disease of the recurrences.

He advises early operations.

Von Ziemsen reports six cases only, one of which improved under electrical treatment, but relapsed into its former condition after treatment was discontinued. Under the same treatment he again improved. Of the subsequent history of the case nothing is known, the patient never having returned to the doctor.

Dr. Lennox Browne says Mackenzie counts electrical treatment scarcely a safe procedure; and he also mentions that the only remedial case in which decided improvement took place was that of Von Ziemsen. The benefit was entirely due to the application of the indirect and constant current. This is the case already mentioned by Von Ziemsen, who lost sight of his patient, and we are therefore in doubt as to whether or not the case was permanently benefited.

Anyone who has read the report of Dr. Winslow's case, published in the *Baltimore Journal of Eye, Ear and Throat Diseases*, for January, 1897, cannot but appreciate the importance of an early operation.

Dr. Jonathan Wright, of Brooklyn, reported a case of a woman, aged twenty-six, who died on the very day he had appointed to operate upon her.

There is mentioned a case in Dr. P. Watson Williams' book of a man who died in the Bristol Royal Infirmary before tracheotomy could be performed. Dr. W. Freudenthal also reports a case who died suddenly on the street.

In reply to my query, Dr. F. V. Fitzpatrick, of Cincinnati, reported a case in which operation was refused and the patient died.

Dr. A. C. Getchell, of Worcester, Mass., likewise reports a case of a man thirty-five years old, with history of cured syphilis nine years before; no operation was made and patient died.

Dr. E. L. Shurley, of Detroit, reports death in one case of bilateral abductor paralysis.

In looking up the literature of this subject, I find authorities referring to each other's cases so frequently that it is exceedingly difficult to compute the exact number of cases. I have found recorded eighty-eight cases to which I add the thirty cases reported to me by letter, only a few of which have been published, making a total of 118 cases.

I am fully aware of my ineffectual efforts in reviewing the literature and doubt not that many more cases are on record. It is not my desire to have every case of bilateral abductor paralysis tracheotomized or intubated the moment it comes under observation, but I do feel a personal responsibility in charging you to beware of procrastination, lest the thief of time rob you of your patient. Put the matter decidedly before him and give him no loophole through which to escape. A study of the thirty cases which I have tabulated and appended herewith, shows that fourteen of them were operated upon, while thirteen had no operation and three were lost sight of after the first observation. Of the fourteen cases operated upon ten recovered, one died and three strayed away.

Of the thirteen not operated upon seven recovered, three died and three were lost sight of. Four of these seven that recovered, were neurasthenics and should not properly be classed as true paralysis of the abductors, leaving the percentage of recoveries very small—three to ten—when compared to those upon whom operation had been made.

	NUMBER OF CASES.
Mackenzie .....	16
Burow .....	34
Toboldt .....	6
Williams .....	1
Ziemsen .....	6
Schrötter } .....	12
Krause } .....	
Fränkel } .....	
Wylie .....	1
Robinson .....	1
MacBride .....	1
Schmidt } .....	5
Rosenthal } .....	
L. Browne .....	2
Jake .....	1
Lodge .....	1
Permewan .....	1
Total .....	88

I will not weary you by a further recital of the tabulated cases, a list of which I have appended to this paper:



No. of cases.	How long existing.	What operation.	Result.	Central or peripheral.	Cause.	
John R. Winslow..	1	4 weeks.	Tracheotomy.	Recovered.	Peripheral.	Syphilis. Necrosis of cricoid following typhoid. Syphilis. Died three months after. Syphilis. Don't know.
H. L. Swain.....	1	3 weeks. 2 years.	Tracheotomy. None.	Recovered. Recovered.	Peripheral. Peripheral.	Paralysis, no better.
E. H. Griffen.....	4	1 year. 5 years. 2 months.	Tracheotomy. Tracheotomy. None.	Recovered. Recovered. Don't know.	Peripheral. Peripheral. Peripheral.	
J. Gleitsmann .....	1	Don't know	Tracheotomy.	Recovered.	?	Lost sight of case. Died eleven years after operation.
J. Solis Cohen .....	1	7 years.	Tracheotomy.	Recovered.	Probably Syphilis.	Eventually died.
F. V. Fitzpatrick..	1	Several months.	None.	Died.	Syphilis.	
W. Cheatham .....	1	Intubation.	Recovered.	Peripheral.	Bronchial gland	Wore tube two years. caused death.
W. Freudenthal ..	2	None.	Death.	Central.	?	Lost sight of case.
J. C. Mulhall.....	3	12 years. 4 years.	Tracheotomy. Tracheotomy.	Unknown. Unknown.	Syphilis. Syphilis.	
Robt. Levy.....	2	3 months. 3 weeks.	None.	Cured.	Syphilis.	
John Dunn.....	2	Tracheotomy.	Cured.	?	Syphilis.	
A. C. Getchell.....	1	Tracheotomy.	2 months.	Knows nothing of	subsequent history.	
	1	only for a few moments. Death.	None.	?	Syphilis.	Lost sight of case.
J. O'Dwyer .....	1	Removed part of cords.	Recovered.	?	Syphilis.	
E. L. Shurley .....	2	8 months. 2 years.	Tracheotomy. Tracheotomy.	One death. Recovery.	?	
J. E. Logan .....	2	4 months.	None.	Don't know	Syphilis.	
Hal Foster .....	2	None.	Cured.	Cured.	Syphilis.	
	2	3 years.	None.	Cured.	Neurasthenic.	
	2	At once.	None.	Cured.	Fright.	
H. H. Curtis .....	3	1 year. 2 years.	None. None.	Cured. Cured.	Neurasthenic. Neurasthenic.	
N. L. Wilson.....	1	*None. Intubation. None.	Cured. Cured.	?	Syphilis.	
	30	6 months. 6 months.	Intubation. None.	Death.	Syphilis.	

## SLIGHT IRREGULARITIES OF THE NASAL SEPTUM.\*

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Abnormalities of the nasal septum are among the most common causes of either recurrent coryza or chronic rhinitis. A perfect septum is as essential in a faultless nose as is an erect and solid center pole in a circus tent. In order to thoroughly comprehend the primary cause of a complaint of catarrh or other nasal trouble it is necessary to first have a correct conception of the normal nose both structurally and physiologically. In a previous paper,<sup>1</sup> some time ago, I outlined my understanding as to both, and since then my personal observations, as well as my readings, have only tended to corroborate the belief therein outlined.

In a perfect nose a vertical and practically plane septum should divide it in two passages of equal size though reversed mates in form. Furthermore, at no point should two opposing surfaces ever touch each other, even when the erectile portions of the turbinals are most congested. Thus the inspired air can at all times freely penetrate to all parts of the nasal fossæ so that through evaporation of the watery nasal secretion it is properly humidified. As the anterior half of the inferior turbinal is the most erectile of the nasal tissues it is in this region that the most room is required. Therefore when the turbinal congestion subsides this portion of the passage will seem quite roomy.

Another requirement of equal importance in a normal nose is that the passages shall not be too roomy, as in this case the passing current of inspired air is not so well warmed and humidified. If the nasal passages are not exactly straight, but represent a gentle curve, being otherwise normal, it has been claimed that the requirements of respiration are sufficiently well fulfilled, the same as in the case of a highway, constructed with a series of easy curves and inclines, which serves the requirements of transportation, providing it is smooth and of proper width so teams can pass each other. It must be granted, though, that such a highway, owing to the increased distance from one end to the other, cannot be considered as ideal as in an equally well constructed road made in a straight line

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in accordance with the economic teachings of a well-known principle of geometry.

In cases of pronounced deflection, or wherein there is projecting from the septum a large ridge or spur, so as to cause a noticeable diminution in the breath-way of the occluded nostril, there is no dispute among rhinologists as to the desirability of correcting the defect as completely as possible, but in cases wherein there are found slighter defects or deformities there is a difference of opinion as to the justifiability of operative procedures. It is to a consideration of these lesser defects that this paper is addressed, and in their consideration preference will at times be given to common-sense arguments and homely comparisons. Such defects may consist of one or more slight cartilaginous growths upon a vertical septum, or the convexity of a slightly deflected septum, neither of which are abrupt or seem to materially lessen the patency of the nostril at the time of the examination. These prominences alluded to are most often located well forward and not infrequently near the floor\* of the passage.

As Zuckerkandl<sup>2</sup> found nearly forty per cent asymmetrical nasal septa in European skulls we may readily understand how slight irregularities are the rule rather than the exception, and, additionally, if their importance in the etiology of nasal catarrh be acknowledged, we have a further explanation for the universal prevalence of this complaint. I have in a previous paper<sup>3</sup> called attention to another variety of these lesser defects, to which I gave the name "anterior soft hypertrophies of the nasal septum," and which are easily destroyed by the electro-cautery. Posterior white hypertrophies either side of the vomer also require similar treatment.

Generally speaking, it is only those who have some kind of nasal trouble who submit themselves to a rhinological examination, so we start out therefore with a history of either nasal catarrh or recurrent coryza. In the next place, as we know that the several symptoms indicating nasal trouble are, in a broad sense, all due to some kind of intranasal structural deformity, we are led to search in each nose examined for some structural abnormality which may be the cause of the symptoms complained of. Of course a nasal discharge may come from an inflamed Schneiderian membrane in a nose wherein no structural deformity exists, though this is a phenomenal exception to the rule, and such a case recovers quickly and rarely falls in the hands of the specialist. It is mostly with cases of persistent recurrence or manifest chronicity with which he has to deal.



In the examination made by anterior rhinoscopy the color of the mucous membrane is the first thing observed. A heightened color is most often found upon some one or more points upon the septum which have an increased prominence. Future examinations reveal a continuance of the same intensification of color at the indicated points. The cause of the increased color is chiefly from friction by the to and fro passing currents of air, which necessarily touch with more force any point of septal prominence, making it both dry and irritated. Another way in which even a small growth upon the septum may cause annoyance is by its obstructing drainage, as does a stone in a gutter, when the patient is lying down with that side of the septum uppermost from which springs the growth. In this way secretions are for a time retained, and thus serve as fuel added to the fire by a species of auto-infection. The same may be said of the touching of any two opposing surfaces.

Retained nasal secretions become partially decomposed and cause the mucous membrane at the point of retention to become still further thickened and inflamed, until the secretion itself as there formed is abnormal, the same as the colorless tear of the eye becomes milky when the eye is inflamed.

It has been argued that inflammation causes the obstructive growth instead of being caused by it. While this may be true in the beginning there is no doubt as to the influence of the growth in keeping up the inflammation, as is proven by the subsidence of the inflammation after the destruction of the growth, which is evidenced by a cessation of the symptoms, including the heightened color and discharge.

In view of the teachings of the past it may appear heterodox to advise attacking these slight irregularities surgically, for it has been given out as a sort of rhinological commandment: "Touch not a growth upon the septum which obstructeth not." Therefore the surgeon is decried whose aim is said to be that of trying to "make all noses alike," or, in other words, the surgeon who has in his mind's eye an ideal standard with which he strives to make conform as nearly as practical the several defective noses which come under his care, the same as does the ophthalmologist who, by corrective lenses and otherwise, aims to make the defective eye as nearly as possible like the ideal emmetropic model.

Notwithstanding such edict, and after careful observation, coupled with my understanding of the philosophy of nasal respiration, I am convinced that such practice within reasonable bounds is the only rational practice for the rhinologist to follow, and my clinical experience has often corroborated the correctness of the theory.

While a slight growth, such as is being considered, may not seem to occlude the nostril to any extent whatever when the examination is being made in a warm room, and with the opening to the nostril distended, it must be remembered that when the opposing inferior turbinal becomes congested through exposure to cold it may touch and even press against the growth alluded to. Furthermore, as these prominences are generally well forward, the mobility of the *alæ nasi* further assists in obstruction during inspiration. Therefore a small prominence well forward is much more harmful than would be a growth of similar size located further back. In fact, as the openings to the nasal passages, both forward and rear, are less in area than is a cross section at any intermediate point, it can be readily seen why a slight enlargement near either end is more obstructive than elsewhere in the passage.

In these cases the stenosis is intermitting, and often alternating, as the opposite nostril is affected by sympathy even though not structurally defective. Noses differ much in size and character, and in one nose a very small growth may in this way cause more trouble than will a similar growth of double the size in another nose. It must meantime be kept in mind that it is only the nose which is giving trouble that is brought to the attention of the rhinologist, and that the indication for operation rests largely upon the annoyance given.

In considering the advisability of operating in such cases let us reason for a moment. Is a large growth upon the septum produced quickly, traumatism excepted? No. Do many cases with ridges or deflected septa give a clear history of material injury? No, only a small per cent. Do we often find a good-sized ridge in a child's nose—say prior to the age of puberty? But rarely. Therefore, as they are frequently observed in adult life, they must have grown since puberty. In fact, is it not probable that they even increase in size during early adult years? Ergo, would not their thorough destruction when first observed avoid the possibility of after-trouble and annoyance? Certainly, and, furthermore, as their removal when small causes much less annoyance than when of large size, we have another reason why operating a small growth is justifiable.

Clinical experience has often demonstrated to me that by the removal of one or more small growths pronounced relief from the complained-of symptoms is given. In fact, I have frequently observed that patients experience a greater proportionate amount of satisfaction and relief after the correction of these lesser defects than do others from the correction of greater deformities. The ex-

planation is that with the latter nature has produced compensatory defects, as, for example, pressure atrophy of a turbinal opposing a septal convexity, though such a change, while apparently giving relief, is worse than the original condition.

What possible harm can come from operating these slight irregularities, particularly as they are absent in case of a perfect septum, which is, as before stated, practically plane? What honest dentist advises delay in the filling of a discovered cavity until the tooth aches? He well knows that the ache will come sooner or later if the tooth is neglected, and that the longer neglected the greater the destruction of tooth substance. In the same way we know that from these slight defects future trouble may be expected. Again, the ophthalmologist has learned that slight ocular defects frequently cause more trouble than do the grosser defects. Thus a slight insufficiency will often cause reflex symptoms while marked strabismus is chiefly objectionable owing to cosmetic reasons, and the progressive amblyopia of the less-used eye is rarely observed by the patient. While correction of the pronounced strabismus is universally approved of, shall not the slight insufficiency be also corrected at the earliest practical moment? Of late years the lesser defects of the eye, as, for example, mild degrees of astigmatism and insufficiency, are carefully searched for and corrected, and from their correction the patient often experiences far more relief than do other cases wherein the defects corrected are much more pronounced.

If in one case the removal of a ridge gives relief from a nasal catarrh, may we not reason by analogy that a future catarrh is liable to occur whenever a ridge is found, even though it may have never seemed to cause annoyance? The ridge often precedes the catarrh by many years, the same as a congenital astigmatism, which may cause no trouble until adult life. Likewise a dental caries may be of years duration before the sensitive part of the tooth is reached so the patient is made conscious of its presence.

It may be asked why these defects of special parts can so exist for years without producing disturbance and then so suddenly and emphatically announce their existence. In reply it may be said that patient Nature often consents to carry a load for years until the time comes for a crash, the same as with the last straw which broke the camel's back. In the case of the nasal trouble the time comes when between swallowing of post-nasal secretions, and the unconscious drawing of the same into the lung tubes, there is slowly produced, on the one hand, a gastric catarrh with its accompani-



ing indigestion and constipation, and, on the other, a catarrhal condition of the lining membrane of the lung tubes clear to the air vessicles, thus producing, as suggested by Ballenger,<sup>4</sup> a thickening of the same so as to interfere with the osmotic oxygenation and purification of the blood. In this way, from both directions, there comes an auto-toxemia and an impairment of vitality, which is bound in time to tell and to increase one's susceptibility to the effects of either exposure or exhaustion.

As to the surgical treatment but little need be said. I have found it wisest to precede all intra-nasal operations by a few days' medical treatment in the form of local applications in order to reduce the hyperemia to the minimum.<sup>5</sup> For the operation the knife, the saw or the curette may be used as indicated, singly or successively. When the thickening is low down near the floor a saw curved on the flat can often be used with better effect than can a flat saw. Such curved saws I have had made in pairs, a right and a left.<sup>6</sup>



Fig. 1. Saw Curved on the Flat ( $\frac{1}{2}$  size).

After the use of the saw or knife I generally finish up with a burr operated by an electric engine. It is desirable in this way to produce a slight depression in the area operated, which, in the process of healing, will fill up to the proper level. Succeeding the operation daily treatments for about two weeks are of the utmost importance in order to obtain ideal results. At each treatment the wound is to be massaged with a cotton wound applicator, which may be medicated with camphor-menthol twenty per cent or with a ten per cent solution of antinosine in glycerine. The massage for the first two or three days should be gentle, but after that it should be energetically employed. Each daily massage should be preceded by a brief application of cocaine to minimize the discomfort. The massage will remove granulations and debris and will tend to cause absorption of any slight unevenness remaining after the use of the burr, including the inflammatory thickening at the margin of the wound. In this way the wound will gradually become smaller by a process of healing from the periphery toward the center, and

will eventually become smooth and normal in both form and appearance. By omitting the massage after-treatments there is, through the formation of granulations, and the reattachment of partially loosened shreds, a tendency toward reproduction of the original growth. In the case of the convexity of a slightly deflected septum there is usually enough thickness thereof to permit of a little of the prominence being sliced off with the knife or saw or scraped off with the motor burr. By following the operation with the daily massage treatment some improvement is secured, and it has often seemed to be much greater than could be expected from the apparently slight amount of tissue removed. I attribute this to a sort of reaction following the operative attack—an absorption or shrinkage—and the slight extra space thus secured tends to produce a corresponding reduction in size of the opposing turbinal, so the patient experiences more benefit than might be reasonably expected from the moderate amount of work done. Of course, care must be taken to not produce a perforation. As a help before the operation, in order to be doubly assured as to the thickness of the septum, a septometer may be employed.<sup>7</sup>

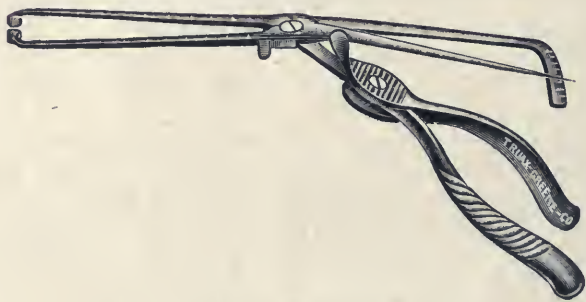


Fig. 2. Author's Septometer ( $\frac{1}{2}$  size).

In the process of healing under the massage treatment suggested, the new membrane formed has every appearance of normal nasal membrane, and is in no way a source of after-annoyance, providing the operation has been successful in removing the growth to the normal level and that there are not allowed to remain other irregularities near by. The indication in treatment is to proceed from one abnormality to another at suitable intervals until the nostrils have been made to conform to the plan of the ideal standard.

The conclusion to be deducted from the arguments presented is:  
That slight prominences of the nasal septum, which through heightened color of the lining mucous membrane give evidence of chronic inflammation, are to be reduced as nearly as possible to the normal plane of the septum.

Columbus Memorial Building.

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## NASAL AND POST-NASAL SYNECHIAE.\*

BY PRICE-BROWN, M.D., TORONTO.

The presence of synechiæ within one or other of the nasal cavities is a pathological condition so frequently met with by every rhinologist that one is almost inclined to doubt the wisdom of taking up the time of the Fellows of this Society in the discussion of such a subject.

It seems to me, however, that the very facts of its frequency on the one hand, and the apparent simplicity of its management on the other, which is more apparent than real, are sufficient reasons for warranting careful attention to the subject.

During recent years many monographs, long or short, have been written upon it; among which I might mention those of Kyle, Moliné, Scheppegegrell, Vanzant, Watson.

You, no doubt, are all familiar with these, and the views they express, and I will not weary you by referring to them again. But if by a brief statement of my own views upon the subject, founded upon personal observation, I can create a general discussion, and induce the gentlemen present to favor us with the result of their own personal experience, it is just possible that a condition of things which is so often produced by the operating rhinologist himself, may, from our side of the question at least, be consigned to the limbo of the past, rarely again to arise as a result of the rhinologist's surgical traumatism.

Far be it from me to express the opinion that the majority of cases are the result of our own injudicious treatment; yet undoubtedly many of them are. This may arise from unwise operations, lack of care in after-treatment, or from one cause or other our inability to keep sufficient control over the future progress of the case.

The last mentioned is a point I would like to emphasize before entering more fully into the subject.

Is it not a fact that the comparative post-operative immunity from pain in nasal cases is a condition favoring the development of these synechiæ? That is to say, the patient after intra-nasal operation experiences so much less pain than he anticipated that he is very apt to consider, the operation once over, that the wound can take care of itself. Hence he forsakes attendance upon the rhinologist long before the parts are perfectly healed.

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\* Read at the annual meeting of the American Laryngological, Rhinological and Otological Society, Philadelphia, June, 1900.

A synechia may be described as a bony, cartilaginous, or fibrous band, unnaturally connecting together the opposite walls of a cavity. It occurs most frequently between the middle turbinal and the septum. Next between the inferior turbinal and the septum. It may also occur between the lower turbinal and inferior meatus, the middle turbinal and the external wall, or between the two lower turbinal bodies. In the naso-pharynx the synechia is usually found connecting the lip of one or other of the Eustachian tubes to some part of the pharyngeal vault.

Pathologically it is almost invariably either osseous or fibrous in character. The synechia can only be cartilaginous when situated in the extreme anterior region, where the septum lies directly opposite the superior or inferior lateral cartilages; and the condition in this region is so exceedingly rare as to be practically non-existent.

When osseous, it usually consists of solid union between the septum and the outer wall, either of the middle turbinated with the perpendicular plate of the ethmoid or the inferior turbinated with the vomer.

Almost all other synechiæ, wherever situated, are of a fibrous character, the result of inflammatory adhesion between two abraded surfaces. When these abraded surfaces are kept constantly in contact for a considerable length of time, the capillary circulation extends from side to side and the attraction of cohesion finally develops into permanent union, the synechia being the result.

The etiology of the formation of these false bands is a many-sided question. I think it is rarely if ever a true congenital condition. The predisposition may be congenital possibly; but the inflammatory action essential to development of the synechia is scarcely likely to occur during intra-uterine life.

The cause in all cases I believe to be either directly or indirectly traumatic. By directly traumatic I mean direct physical injury of one form or another, either by the surgeon's knife, saw, or cautery, or whatever other instrument he may use in operating upon his case; or from direct accidental injury to the parts themselves.

By indirect traumatism I mean simple abrasion of the surfaces from forcible blowing, when the swollen tissues are either almost or altogether in contact; or abrasion of the surfaces by continuity of contact, as in cases of chronic congestive hypertrophy of the middle and inferior turbinated bodies. In the latter condition, the vitality and resistance of the mucosa is in some cases so materially impaired that the soggy tissues lose their contractile tonicity, and the membrane at the part of greatest pressure becomes so thin that intercapillary circulation is readily developed.

Perhaps of surgical instruments the electro or galvano-cautery is the one of all others, the use of which within the nasal passages is most likely to be followed by the development of this condition.

I do not want it to be understood that I side at all with the wholesale condemnation of the electro-cautery, which is at present becoming the fashion with rhinologists. I fear that with us, as with other men, the pendulum is allowed to swing from one extreme to the other; and we have not yet learned to run the happy mean. I believe that when used with judicious care and precision, and in properly selected cases, there is no instrument more useful in our whole armamentarium. But that does not invalidate the fact of its effect in producing nasal synechiæ.

There are two reasons for this. The first being the escharotic effect produced by the high temperature of the cautery on the wall opposite to the one operated upon. The other, the fact that cautery operations are more frequently followed by temporary edema than are those of any other instrument. Hence, when the chink is narrow, the cautery should not be used unless we can secure complete separation of the two surfaces until healing has been completed.

When operations are performed with other instruments, such as the knife, saw, scissors, chisel, etc., the mucous membrane of the opposite wall should not be injured at all, while subsequent edema of the part operated upon is less frequent; and hence the formation of synechiæ not so likely to follow.

The prolonged existence of turbinal hypertrophy is not an uncommon cause of fibroid or ligamentous synechia. I have observed this as a result in several cases of atrophy of the turbinates; cases in which, with almost complete shrinkage of the middle turbinated body, ligamentous bridges had formed, connecting the lower border with the external wall. The only reasonable conclusion seemed to be that a former hypertrophy had filled the cavity; abrasion had connected contiguous surfaces at the most dependent, and hence most congested parts, and union had become perfect before the subsequent atrophy had commenced.

Cases sometimes come under observation in which no history can be traced, and in which direct traumatism is out of the question. For instance, I have just now a vocalist who came for throat trouble, but had no idea there was anything wrong in her nose. She never had nasal treatment of any kind. In the left nasal passage, two centimetres from the naris, in a wide nasal chamber, a thick band had formed, connecting the anterior inferior end of the lower turbinated to the septum. Query—how did it occur? Healthy mucous mem-



brane all around. Room enough to breathe freely through the passage independent of the synechia. My impression was that during early life the dependent end of the turbinated had pressed against a slightly bulging septum until union had occurred. And when on closer inquiry I found that she was a hemophilia, the case became clear.

In the post-pharynx the pathology and etiology are very similar to what they are in the nasal chambers. There the synechiæ are always of a fibrous or ligamentous character, and the parts connected are one or other or both of the Eustachian tubes to the upper or back part of the pharyngeal vault.

Careless or ineffectual removal of the adenoids may readily be a cause of Eustachian synechia. When a single large central piece is removed the ragged edges are likely to drop down onto the lips of the Eustachian tubes, and if from careless handling of instruments the bulbs have been bruised synechiæ can readily form. We cannot be too careful in our treatment of these cases, and should do our best always to prevent accidents of this kind from occurring.

I believe, however, that in the naso-pharynx the most frequent cause is indirect instead of direct traumatism—the very opposite of its occurrence within the nasal chambers. Perhaps in this variety there is only a single proximate cause; and that is excessive redundancy of pharyngeal tonsillar tissue. When adenoids are excessively developed, it is a well-known fact that severe colds or high febrile action are sometimes accompanied by slight hemorrhage from the naso-pharynx. What more natural than for the hemorrhage to arise from the spongy tissue pressing hard upon the extremities of the eustachian tubes? The abrasion once occurring the continual pressure might eventually result in union.

Be this theory correct or not, I have on several occasions found direct ligaments binding the Eustachian tube to the base of a shrunken pharyngeal tonsil; and in which no operation of any kind had previously been performed.

I might mention here one peculiar case that I saw several years ago. It occurred in a young man, aged twenty-one. He had never received either nasal or pharyngeal treatment. Whenever he attempted to sing, he said the voice sounded as if it penetrated the left ear through the throat, producing a very disagreeable sensation. On examination, I found a shrunken pharyngeal tonsil tightly attached to the posterior superior lip of the left tube by a broad ligamentous band, seemingly counteracting the natural tendency to closure of the tube. The consequence was that the tube being con-

stantly open, the sound of his own voice reached the ear through it, as well as through the external auditory canal. I removed the synechia by curette and digital operation, and the result was perfect relief from the abnormal vocal sounds.

There is one other variety of naso-pharyngeal synechia I would like to mention, and that is a perfectly symmetrical bilateral synechia extending over the vault of the pharynx from lip to lip of the Eustachian tubes. I have seen several instances of this, and in two cases in which the synechia was accompanied by adenoid enlargement I removed as I thought successfully the entire synechia. Within a year, however, in each case, I had the opportunity to examine the patient again, to find, although there was no return of adenoid tissue, there was complete redevelopment of the cicatricial band.

With regard to prognosis. In synechia of the nose, this depends almost entirely upon the attention and time that the surgeon can devote to his case. When the cavity across which the band is formed is wide, the prognosis is most favorable. When the chink is a narrow one, the cure is more prolonged; and without the greatest of care, often unsatisfactory.

In treatment there is a diversity of methods, from Scheppegegrell's artistic sweep, with celluloid sound and silk and wire, down to Watson's simple friction.

But I will not detain you with an enumeration of these, but simply speak of the methods I have found the most useful.

In the bony synechia, between the vomer and the inferior turbinated, I have found the saw to be the most useful instrument, choosing one with a strong, wide, cutting edge and narrow back, severing the part first at one side, and then sawing the chink a little wider at the other.

The saw can also be used in middle turbinated osseous synechia, though its limitations are more marked. To keep the parts open I have used cotton wool tampons soaked in albolene—I like them better than gauze, or thin rubber sheeting made wide enough to completely cover the raw surface. By its own elasticity it will usually retain its position. It may readily be kept in place for three or four days or a week without removal. To keep the parts free from discharges, albolene sprays have been used two or three times a day; and the patient has been directed to lie on the opposite side to the one operated upon to favor gravitation.

In removing fibroid synechiæ I have found the knife, scissors or hooked nasal knife the most useful, very rarely indeed using the

cautery. When there is a simple ligamentous band, it can be clipped out at each end by appropriate scissors. When the space is small, and the synechia likewise, the simple sharp hook passed through it from behind forwards will sever the parts and cause a chink.

Any hemorrhage that occurs at the time I always consider an advantage to the patient. These cases almost invariably require the insertion of tampons of one form or other. As I said before, I do not like gauze, but prefer absorbent cotton soaked in one of the hydro-carbon oils, and left in a situ for several days without being disturbed, except to keep the passage above and below cleansed and open.

In some of these cases I have used to advantage the rubber sheeting already referred to, and found it an excellent adjunct.

With regard to the length of time that absorbent cotton can be retained without becoming offensive or producing any injurious effect, I may say that in the case I referred to in the commencement of this paper, I removed the tampon two days ago. It had been in position ten days; the passages above and below having been kept free by the daily use of albolene sprays. The parts were moulded to a proper form, the chink clearly open and the surfaces almost healed, without producing at any time the slightest distress to the patient, or offensiveness of breath.

One point here I want to emphasize, and that is, I do not use aqueous sprays at all in these cases, but hydro-carbon oils thrown through the atomizer by means of compressed air.

In removing post-nasal synechiæ between the Eustachian tube and the vault, I have used the cautery blade passed up behind the palate with success. Usually, however, I have employed a narrow Gottstein curette and the finger nail. Of course tampons are not required in this region.

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## SOME REMARKS ON THE ETIOLOGY OF RETROPHARYNGEAL ABSCESS, WITH REPORT OF CASES.\*

BY M. R. WARD, M.D., PITTSBURG, PA.

In a circular letter addressed to the profession of Pittsburg, I some time ago asked for a report of the cases of retropharyngeal abscess observed by each physician. I was surprised to learn that many of the older and most careful observers had never met with a single case in all their practice. In my own experience, covering a period of ten years in general practice, I saw but one case, which came under my observation while serving as a resident physician in Randall's Island Hospital, N. Y. During the past year, however, in a period of less than one week, I had an opportunity of observing two cases, both occurring in children, the histories of which are here appended:

*Case I.*—Clara L., æt. two and a half years, with no history of any previous illness, scrofula or specific taint. Present illness began March 2, 1900, and was attributed to exposure to a draft from an open window when the child was convalescing from a cold, affecting the upper respiratory tract. The following morning, after this exposure, the child was peevish and cross, and held its head in a rigid position, and slightly inclined to the right. There was some fever present. It had great difficulty in swallowing, and took nourishment sparingly. Some change in the voice was noticed, and described as muffled and thick. I was called to see the patient on March 6, 1900, for what the parents thought was an earache. The child was evidently suffering pain, which it referred to the right ear. There was some tumefaction on the right side of the neck, at the angle of the right inferior maxillæ, and in front of the sterno-mastoid muscle. Inspection of the throat revealed an acute pharyngitis. If there was any swelling or tumefaction present it escaped my notice. There was a muco-purulent discharge from the anterior nares, a temperature of 103° F. and a pulse of 140. Examination of the ear revealed an acute otitis media.

I saw the patient again on March 11th, when an examination of the throat revealed a retropharyngeal abscess the size of a hazelnut back of the tonsil on the right lateral wall of the pharynx. This was opened by a guarded bistoury. The breathing and throat

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\* Read before the sixth annual meeting of the American Laryngological, Rhinological and Otological Society, Philadelphia, June 1, 1900.

symptoms were immediately relieved. During the following night, however, there was a profuse discharge of pus from the right ear, which was the only complicating circumstance attending the recovery of the patient.

*Case II.*—M. W., æt. six months, well nourished, with neither the appearance nor family history of any specific or scrofulous taint. Present illness began March 6, 1900, with the symptoms of influenza, a disease which was known to exist at the time in an elder member of the family. There was some cough, and a muco-purulent discharge from the nose, particularly on the right side. The child was peevish and fretful and seemed to suffer pain when disturbed. There was some elevation of temperature, and a corresponding acceleration of the pulse. Inspection of the throat showed a markedly congested pharynx. No rhinoscopic examination was made. The tonsils were slightly hypertrophied. During the following week the patient was seen daily. The head was held in a rigid position and slightly turned to the right side. Any attempt to move the head showed marked evidence of pain. The superficial lymphatics were not noticed to be affected. There was considerable cough and laryngeal disturbance. The voice was husky, thick, muffled, and not unlike the characteristic voice of the adenoid patient. Great difficulty in swallowing was noticed, and the patient absolutely refused to take the breast, but took nourishment, with some difficulty, from a teaspoon or cup. The tongue seemed to be kept almost in constant motion, and in such a manner that the fluid would gravitate forward instead of backward. On the sixth day a swelling was noticed externally on the right side, just beneath the angle of the jaw, in front of the sterno-mastoid muscle. An oral examination revealed the presence of a retropharyngeal abscess on the right lateral wall of the pharynx, in the region of the swelling, which showed externally. The diagnosis was based on the appearance and location of the swelling, combined with a digital exploration of the pharynx. The abscess was opened internally on the following day, and barring some digestive disturbance, the patient made an uneventful and speedy recovery.

Retropharyngeal abscess is an affection seldom seen by the throat specialist. It is confined to no particular age, but is generally considered to be an affection chiefly of childhood. Bokai† has given us by far the most exhaustive study of the disease as it occurs in early life. He reports 204 cases which occurred in a twenty-six years' service at the Children's Hospital, at Pesth.

† *Jahrbuch fuer Kinderheilkunde*, Wien, 1856-58, vol. i, p. 183; 1876, vol. x, p. 108.

The following classification made by him is of interest from an etiological point of view:

Idiopathic .....	179
Scarlet fever.....	9
Measles .....	1
Caries of the vertebra.....	7
Abscess of neck.....	7
Traumatism .....	1

We note that the number of cases classified as idiopathic is largely out of proportion to the other causes. Exception may be taken to the use of the word idiopathic in this connection. To suppose that the disease is so generally a primary condition is hardly in accordance with the present advanced knowledge of scientific medicine—a suppurative process is to be accounted for here as elsewhere in the body. When an irritant or poison enters the system, by a wise provision of nature, it finds lodgement in the lymphatic glands nearest the portal of entrance. We see it in the axillary glands as a result of wounds of the arm; in the inguinal glands as a result of wounds of the leg, chancroid or gonorrheal infection; the cervical glands in scarlet fever, diphtheria, and other inflammatory affections.

The etiology and pathology of retropharyngeal abscess varies somewhat with the age of the patient. In adult life it is very much less frequent and involves the cellular tissues of the pharynx. The pathological process, at this period of life, differs in no respect from the ordinary abscess formation in other portions of the body. It may be due to traumatism, caries of the vertebra, burrowing of pus, or an infective process of a metastatic origin.

When, however, it occurs in infancy, the deep cervical glands are usually at fault. In early life these glands are numerous and of large size and form an uninterrupted chain extending along the lateral wall of the pharynx, in close proximity to the sheath of the carotid artery and internal jugular vein, a fact to be borne in the mind in any operative procedure.

While the strumous habit may figure as an etiological factor, we not infrequently find it in children presenting all the appearance of perfect health. Here we must account for it by some inflammatory or infective process in the neighborhood of the glands affected. The mode of entrance is not always apparent, but in many cases, no doubt, the micro-organisms enter through the lymph spaces, in the mucosa of the naso-pharynx, or the tonsils, whence they may or may not occasion any specific lesion. In health, the local resistance, or as some one has put it, the phagocytes, will be found



sufficiently active to destroy the invaders. But in children, with constantly recurring attacks of nasopharyngitis, the natural resistance is weakened and an acute adenitis results, terminating either in resolution or suppuration. How frequently this occurs is apparent to the general practitioner of medicine, who has the care of children. In this class of patients it is a common occurrence to find the superficial cervical lymphatics inflamed and swollen with every attack of acute coryza, pharyngitis or tonsillitis. These glands, by reason of their location, should be less frequently affected than the deep cervical lymphatics, a fact not borne out by clinical observation. Should this be so, the inference is then apparent that retropharyngeal abscess is, perhaps, more frequent than is commonly supposed or recognized. The disease being essentially, though not necessarily, one of child life, the exact nature of the malady is apt to be overlooked, on account of the mildness of the symptoms which may attend it.

To the casual observer, whose routine examination is limited to an inspection of the fauces and pharynx, an adenitis involving the deep cervical glands would likely escape detection, unless, perhaps, the tumefaction should become pronounced, showing externally or interfering with respiration and deglutition. This I take to be the exception rather than the rule. Few cases, I dare say, end in suppuration, resolution being the usual termination here as elsewhere in the body.

The two cases just reported present nothing unusual from a clinical standpoint. In fact, they may be considered typical forms of the disease as it occurs in early life. Both were accompanied by an acute nasopharyngitis which, doubtless, was the chief and determining cause of the pharyngeal abscess. No bacteriological study was made of either case, a fact much to be regretted, as it would have added greatly to the value of this report.

Park Building.

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## SARCOMA OF THE NASO-PHARYNX CURED BY INJECTIONS OF FORMALIN.

JOHN A. THOMPSON, M.D., CINCINNATI, OHIO.

Simon L., an Israelite, probably fifty years of age, had a severe hemorrhage from the nose and mouth in August, 1898. The flow was not rapid, but continued for several hours until he was almost exsanguinated. Three months later a similar hemorrhage occurred. In spite of medical treatment he bled to the point of exhaustion. During the third hemorrhage, in February, 1899, he was seen by Drs. Max Thorner and W. C. Harris. Blood had been slowly oozing from the nose and mouth for several weeks. The patient was confined to his bed with a pulse of 120 and temperature  $101\frac{2}{5}^{\circ}$ . He was semi-comatose. The blood was clotted and had a foul odor. A profuse, offensive, purulent discharge was flowing from the left ear. The doctors found at that time a solid growth obstructing the naso-pharynx. The blood was coming from several points in this tumor.

In April, 1899, the case came under my care. The patient was very weak from loss of blood and from malnutrition. He had chronic indigestion and his ability to assimilate nourishment was very poor. The nostrils were clear. The naso-pharynx was filled by a red tumor with a rough surface. On examination with the finger its point of attachment was found on the posterior wall of the naso-pharynx. At this time the right ear was suppurating. Under cocaine anesthesia a portion of the growth was removed for microscopic examination. The bleeding was controlled by Mackenzie's styptic solution and powdered kino. The microscope showed the growth to be a round-celled sarcoma. Operation was not thought advisable owing to the patient's general condition. I suggested to him injections of one-half per cent solution of formalin into the growth. This treatment was given through the mouth by means of a hypodermic needle mounted on a curved tube. Twenty-five minims of the solution were used each time. The injections caused considerable pain, but this usually was of short duration. Treatments were given at the office twice each week. He used at home a cleansing and antiseptic spray.

When the tumor appeared less vascular, some six weeks after beginning treatment, part of it was removed by post-nasal forceps.

There was no difficulty in controlling the hemorrhage following this operation. When nasal respiration was restored by partial removal of the growth, the suppuration from the right ear, which had been persistent, was easily controlled. The same plan of treatment was continued until the termination of the case. Injections were given twice weekly, and when, by post-rhinoscopic examination, the blood supply of a portion of the growth seemed to be diminished, this part was removed by the forceps.

The case was kept under observation until March, 1900. Then, as there had been no growth in the throat for three months and the patient's general condition was such that he was able to resume his work, he was dismissed from treatment. At the present writing, July 1st, there has been no recurrence of the sarcoma.

The favorable result in this case would suggest the use of formalin injections in other cases of sarcoma of the naso-pharynx which are for any reason inoperable.

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## SOCIETY PROCEEDINGS.

### AMERICAN LARYNGOLOGICAL ASSOCIATION.

*(Proceedings continued from page 132.)*

#### **Secondary Hemorrhage After the Use of Suprarenal Extract—**

F. E. HOPKINS, M.D., Springfield, Mass.

He gave the histories of three cases of posterior exostoses of the septum in which the extract had been used, and in which secondary hemorrhage resulted. The object of the paper was to give the opinions of various clinicians to whom the author had written, as to the liability of hemorrhage under the conditions named. Almost all agreed that there was considerable danger, and that safety required the use of intra-nasal packing after the extract had been employed. In regard to the remedy causing coryza after having been sprayed into the nose, there seemed to be an idiosyncrasy in this respect, and it could not be determined beforehand just who would and who would not be benefited by this procedure.

#### **Bullous Enlargement of the Middle Turbinated Bone—J. PAVSON**

CLARK, M.D., Boston, Mass.

The writer reports four cases of this condition. In one case both middle turbinates were affected. The bullous turbinate removed in the second case was of extraordinary size, measuring 37 m.m. in length, 18 m.m. in depth and 17 m.m. in width. All four cases were women, the youngest twenty-two, the oldest forty-five years of age.

But twenty well authenticated cases, which were operated on, have been previously reported, making, with the cases reported in this paper, twenty-four in all. Of these twenty were women, three were men and in one the sex is not mentioned. Seventeen were over twenty years old, three under and in four the age is not mentioned.

In spite of the fact that they occur only in adults, these large cellular turbinates are probably of developmental origin. The ethmoidal cells do not develop until several years after birth and the osseous system often does not cease to develop until the twenty-fifth year. Until this time the various air spaces in the

bones may continue normally to increase in size. The inferior ethmoidal (middle) turbinate normally contains a cell or cells in a certain proportion of cases. A "concha bullosa," generally showing no evidence of an inflammatory process, is apparently simply the result of an excessive growth.

Another theory of the origin of these tumors is that the free border of the turbinate sinus grows outward, upward and inward to form the cell.

There is no satisfactory explanation for finding them, with so few exceptions, only in women. In twelve of the twenty-four cases the cells contained air only, five were complicated by polypi, four contained pus. In only four cases were both middle turbinates affected. The most prominent symptom is headache of a neuralgic character, affecting the fifth pair of cranial nerves. Nasal obstruction is generally present. The diagnosis is not difficult. Feeling with a probe will exclude a polyp or hypertrophy of the mucous membrane. The comparatively normal appearance of the mucous membrane would probably rule out any new growth, while the fragility of the bone would exclude osteoma. Treatment consists of removal with the cold wire snare, conchotome or cutting forceps.

**Cyst of the Vocal Cord**—J. PAYSON CLARK, M.D., Boston, Mass.

This case is reported because it differs from the usual description of cysts of the larynx and before operation suggested a fibroma. The patient was a man of twenty-five years, troubled with hoarseness and dysphonia for ten or twelve years. On the middle of the right cord projected above the surface an oval, smooth, grayish-white swelling, occupying one-fourth to one-third the length and the whole width of the cord.

This was incised with a concealed laryngeal knife and completely disappeared on the evacuation of a milky-looking fluid. This fluid consisted of degenerated epithelial cells and a few leucocytes. Six months after operation the patient had no difficulty in talking and his voice was tolerably clear. There remain two minute knobs of mucous membrane projecting from the free edge of the cord.

**Fibroma of the Larynx**—A. B. THRASHER, M.D., Cincinnati, Ohio.

The patient was a woman aged fifty-six years, who had complained of dyspnea and hoarseness. Her family history was negative. The posterior and lateral walls of the larynx seemed to be

the seat of some deposit, so that the true cords appeared pushed in and were defective in abductor movement. A fragment of the mass was taken for examination. The report was fibroma. Iodid of potassium was given in increasing doses, but in a week the patient was seen again and was much worse. After a preliminary tracheotomy with the head dependent and gauze packing, the larynx was split, and it was seen that there was a submucous hypertrophy extending down the cartilage. It appeared to be simply connective tissue. It was removed with the forceps and the patient made a good recovery. The voice was now rough and hoarse, but audible. Two similar cases were described. The rarity of the case consisted in the extensive connective-tissue deposit.

**Singular Exhibitions of Partial Paralysis of the Vocal Cords  
Due to Overuse of the Telephone—C. C. RICE, M.D., New  
York.**

He said that he would make its title a query, for he desired to obtain the consensus of opinion as to the possible effect of overuse of the telephone on the voice. He had had two cases. The first was a nervous man, aged forty-five years, who had been accustomed to use a desk transmitter with his head in a cramped position. The cords showed evidence of fatigue of the thyro-arytenoid muscles, and there was a loss of sustaining power in the other outer muscles, for the cords trembled and the arytenoid cartilages separated immediately after approximating for phonation. The man was directed to take a rest from business and to use the telephone with head erect so as to afford perfect freedom of the cervicle muscles. Recovery had been only partial. The other case was that of a man who was stout and not at all nervous. On the right side of the larynx there was fair adduction. The edge was straight but there was a lack of tension, with an incomplete view of the cord, which was obscured by the overhanging and connected parts. By rest and the assuming of a proper attitude while using the telephone, this patient completely recovered.

**A Case of a Pin in the Larynx for Two Years—Removal by  
Endo-Laryngeal Methods—A. W. DEROALDES, M.D., New  
Orleans, La.**

The patient was a young girl in whose larynx a pin was found situated on the posterior portion, having pierced the apex of the right arytenoid at its inner side. Its head was embedded more deeply on the right side just above the false cord. Forceps was



applied, the left index finger being placed behind the larynx to steady it. The forceps slipped, but the finger caught the pin, which was thrown out of the mouth. In such cases, when the head of the pin was below, it might at first have passed some way down the trachea and then been coughed upward so that the point engaged. Moreover, the head of the pin impeded its migration, so that it did not move about in the tissues as a needle would. The Röntgen rays might often locate the pin when it was impossible to make out its exact position by the mirror. Another point of interest in this case was a hard swelling in the neck, which was probably due to infection which had stopped short of suppuration.

**A Peculiar Case of Migratory Foreign Body with X-Ray Illustrations—D. BRADEN KYLE, Philadelphia, Pa.**

The patient was a woman, who constantly complained of a feeling as if a foreign body was moving about under the scalp. She suffered from intense neuralgias, which at times seemed to focus in the mastoid and at other times in the ethmoid or antral regions. In one of these latter attacks there had been a discharge of purulent material from the naris and in the discharge was a piece of a needle. The symptoms continuing, it was concluded that still another piece was somewhere in the tissues, and an x-ray picture was made, showing a dark line in the neighborhood of the antrum, though it was impossible to tell whether the body was actually in the antrum or on the bone corresponding to one of its walls. The antrum was opened and its cavity illuminated, but nothing was found. In a short time a gumboil formed which discharged, giving escape to another piece of the needle. From this time all symptoms disappeared.

**Tracheal Injections in the Treatment of Pulmonary Tuberculosis**

—T. MORRIS MURRAY, M.D., Washington, D. C.

He gave a short history of the development of this procedure, and then mentioned his personal experience with thirteen cases of pulmonary tuberculosis. In all there was at first a slight explosive cough, but in all the general effect on the cough had been good. No spasm had been noted. The solution used consisted of thyme and eucalyptus oils in olive oil. His experience had been that cough and expectoration had both been lessened, while the temperature had fallen and the general condition had been improved.

**The Correction of the Deviations of the Nasal Septum, with Special Reference to the Use of Fenestrated Comminuting Forceps**—JOHN O. ROE, M.D., Rochester, N. Y.

The importance of a normal nasal septum in the human economy is so uniformly recognized that many writers have been led to discuss the subject and many operators to devise different methods for the correction of the numerous deformities to which it is subject.

Nearly every method is found to have its advantages in certain particular cases and conditions, but the method, in the experience of the writer, that meets the requirements of the different conditions in the largest number of cases does not seem to be sufficiently or clearly understood by the majority of operators, and I therefore take this opportunity to again explain its many merits and advantages.

It should be clearly understood at the outset that no one method is equal to all the requirements of every case, for the deformities of the septum are so infinitely varied that it would be as foolish to attempt such a procedure as it would be to attempt to make one tool or implement do every kind of mechanical work.

This method, however (which I have employed for ten years), on account of the mechanical principles on which it is based, meets the different requirements in the greatest number of cases, needing only to be supplemented by other methods, or by the use of special instruments suited to deal with some particular or localized condition, in a limited number of cases.

To classify all the malformations to which the septum is liable is well-nigh impossible. The only satisfactory classification, therefore, is that with reference to the anatomy of the septum. We have, therefore, first, deviations of the osseous portion; second, deviations of the cartilaginous portion, and, third, a combination of the two, a deviation of the anterior part of the osseous portion and posterior part of the cartilaginous portion, mainly at the point where the two are joined, termed the osseo-cartilaginous portion.

Other classifications, such as sigmoid, letter "S," zig-zag, angular deviations, simply describe the peculiar formation of the deviation without reference to its location. Other conditions, such as exostoses, enchondromas, located on one side of the septum only, which give the septum the appearance of being deflected, need not concern us here, for in this connection they demand attention only as associated conditions demanding attention.

With reference to the frequency with which these different portions of the septum become distorted, it is found that the posterior part of the osseous portion is but rarely deviated alone, occurring in not over five per cent.

Next in frequency comes the deviation of the cartilaginous portion alone, found in about twenty-five per cent, whereas, the osseocartilaginous portion is found deviated in about sixty-five to seventy per cent.

Thus it is readily seen that a method especially adapted for the correction of deviations of the cartilaginous portion of the septum alone should be employed in but twenty-five per cent of the cases, while a method adapted to the correction of deviations of both the osseous and osseocartilaginous portions is of service in about seventy-five per cent of all deviations of the nasal septum.

This method which I first brought before this association in 1892, eight years ago, is based on the principle of a force being applied to one side of the septum between two points of resistance placed on the opposite side of the septum, thereby forcibly indenting the central portion and fracturing it without disturbing or bringing strain on other portions of the septum. In this manner the dangers attending the fracturing of the bone by flat-bladed forceps, like the Adams' forceps, requiring twisting or wringing of the forceps, and consequently lacerating the parts, are thereby avoided.

With the flat-bladed forceps it is only possible to bring the bend up to the median line, which is never sufficient to fracture cartilage and only occasionally bone, and then only when the bend in the bone is great and the blade of the forceps sufficiently wide to bring a large amount of force to bear on the center of the angle. It is only by twisting the forceps that a fracture can be brought about, and the danger of lacerating the septum is readily seen (illustrated by diagrams). It is seen that the moment the blade is twisted the septum must either stretch or be lacerated to accommodate the greater distance of the line of the septum through the center between the blades, whereas, by means of the fenestrated forceps the line of the contour of the septum is made shorter by having the angle or bent portion crowded into it, and it is by means of this sharp bend made in crowding the septum into the opening that fracture of the cartilage is readily produced, and which could not be done in any other manner without laceration of the septum.

By this method quite large bends in the cartilaginous septum can be overcome along with the osseous deflection, and the septum put



in the median line, for it is not only the bone that can so readily be fractured in this manner, but the cartilage as well.

When the deflection in the cartilage is large it is frequently necessary or advisable to incise the cartilage to permit the fragments to slide by each other to compensate for the redundancy.

For this purpose a slender tenotomy knife is best adapted, as it enables the operator to make the incision diagonally through the cartilage, so that the ends of the fragments will slide by each other like the two wedges and at the same time permit a portion of the cut surface to remain opposite each other for union to take place. The greater the redundancy and the greater the lapping of the ends the more oblique should be the incision. In many cases both a vertical and a horizontal incision are necessary, and both should be made oblique to the direction of the septum.

The incision should be made from the convex side with the finger in the opposite nostril for a guide.

In some cases it is unnecessary to cut entirely through the mucous membrane of the opposite side. By carefully cutting the cartilage through only to the perichondrium, the latter can be raised for a short distance with a small elevator passed through the incision sufficiently to admit the outer edge of the cartilage to slide under it.

After the incisions are made, the fenestrated forceps, with medium-sized blades, are introduced, and the base of the fragments fractured and also the deflected portion of the osseous septum.

Thus it is readily seen that by changing the direction of the angle at the osseo-cartilaginous junction and holding the part in position until sufficient ossification has taken place to hold the septum firmly in position, recurrence of the deformity does not take place.

The *modus operandi* of straightening a deviated septum by this method can be briefly summarized as follows:

After the extent and position of the deflection is clearly ascertained the plan of operation is to be determined upon. If we find on the free side of the septum a greatly enlarged middle or inferior turbinated body, as we frequently do, this should be reduced to its normal dimensions, otherwise we would simply transpose the nasal obstruction to the opposite side by straightening the septum.

If we find an exostosis or an enchondroma at the angle of the deflection this should be removed with a saw or cartilage knife. If the deflection is moderate in amount no preliminary incision of

the cartilage is necessary, for the cartilage as well as the bony portion can be readily and sufficiently fractured to overcome all resistance. When this is done an appropriate dressing or support is introduced into the nostril formerly obstructed sufficient to hold the septum in the median line until it becomes sufficiently firm to be self-supporting.

If the operation has been properly performed so that all elasticity or resistance at the seat of deformity has been overcome a support of from four to six days is all that is required.

**The Surgery of the Turbinated Bodies, with a New Method of Operating—J. C. BOYLAN, M.D., Cincinnati, Ohio.**

The great progress made in dealing with obstructing hypertrophy of the turbinated bodies in a comparatively short period and the good results attained at times by very crude methods, only indicated that, far from being an exhausted field, this was one in which much better results might be hoped for in the future.

After resorting to different methods enumerated, as they were developed by the rapid march of rhinology, with varying success, the writer, having convinced himself by observation of the restricting tendency of the hypertrophy, had resorted with increasing frequency to the removal of larger segments of the excessive tissue, by one smooth operation, and the results obtained had proven so satisfactory that he now believed that, in advanced hypertrophy, so frequently associated with interference of the respiratory function, the judicious amputation of portions of the turbinated bodies would be the operation of the future.

From 111 turbinotomies reported, the following conclusions were drawn:

1. That while in exceptional cases involvement of the whole erectile tissue area may exist, hypertrophy is usually greatest at the anterior and posterior extremities.
2. That the relief of obstruction and the reduction of hypertrophy is accomplished more certainly and scientifically by ablation than by cauterization.
3. That while venous dilation is greatest at the posterior extremities, obstruction is rarely due to hyperplasia at this point alone, owing to the large and straight posterior opening, and hence is frequently relieved by removing coexisting causes of obstruction in front.

The method of operating was with the wire loop which, owing to the clean smooth edge of the cut made by its transverse pas-

sage through the body, the small amount of hemorrhage resulting and the possibility of following the wire with the eye quite to the point to be reached, commended this method so highly that the use of the saw and the scissors was in time restricted to cases in which there was excessive thickening of the bone. A very serious objection to this method, however, was the slipping of the loop so that either failure to engage the tissue resulted, or a much smaller segment than was desired was removed, and this, at times, even when the lateral segment of the loop had been inserted into a previously made short incision dividing the anterior extremity of the body from the side wall. To prevent this accident the point of a fine tenaculum, the hook of which formed a right angle, was buried in the lower margin of the turbinated body at the point of operation; the loop was then passed over its handle, carried into the meatus and so adjusted that it passed behind and was held in place by the back of the hook.

By means of this device it is possible to entirely control the amount of tissue removed, and combined, if necessary, with the lateral incision referred to, amputation can be made with accuracy as far back as the middle of the body. In none of the cases reported was the bone ever seriously crushed with the loop or an otitis or deformity caused.

The principle involved in turbinotomy is the radical removal of that part of the tissue which is the final cause of obstruction and in which hyperplasia is furthest advanced, leaving the less affected part, which is to perform the function of the body, uninjured by operative procedures. The indication—to remove as little tissue as possible consistent with the freeing of the passage from obstruction to respiration.

If cauterization is sufficient to materially reduce the hypertrophy, the process must of necessity result in the wholesale destruction of the glands so essential to the function of these bodies and a conversion of an already diseased tissue into a cicatricial one.

**Hemorrhage from a Peritonsillar Abscess**—W. F. CHAPPELL, M.D.,  
New York.

Patient was a young man, aged twenty-seven years, who had had several quinsies, the most recent of which had been opened by an incision through the posterior pillar. Half an ounce of pus was evacuated. Five days later there was a severe bleeding. The urine showed albumin and casts. The bleeding recurred, and the abscess cavity appeared filled with clots. An incision was made



through the anterior pillar, and the cavity washed out and packed daily for ten days, at which time the patient was well. Later a rheumatic attack came on without cardiac lesions. The condition of the kidney had continued up to the time of latest observation. When the cavity was opened for washing out, the ascending pharyngeal artery could be seen, but there was no evidence of ulceration. The records of ten similar cases had been found. All had occurred in patients in whom the quinsy had burst spontaneously. In no case had there been immediate hemorrhage. Of ten cases, eight had been fatal. In the two recoveries the carotid had been tied. The lesson from these figures was to open early.

OFFICERS FOR THE ENSUING YEAR.

President, Dr. Henry L. Swain, New Haven, Conn.

First Vice-President, Dr. Henry L. Wagner, San Francisco, Cal.

Second Vice-President, Dr. Arthur A. Bliss, Philadelphia, Pa.

Secretary and Treasurer, Dr. James E. Newcomb, New York City (118 West Sixty-ninth street).

Librarian, Dr. Joseph H. Bryan, Washington, D. C.

Member of Council, Dr. Samuel Johnson, Baltimore, Md.

Place of meeting for 1901, New Haven, Conn. Date, probably May.

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## THE LARYNGOLOGICAL SOCIETY OF LONDON.

*Fifty-eighth Ordinary Meeting, May 5, 1900.*

SIR FELIX SEMON in the Chair.

### **A Specimen of Acute Edema of the Larynx.**

Shown by Dr. Logan Turner. The larynx had been removed from a man *æt.* thirty-four, who died suddenly from asphyxia before surgical assistance could be obtained. He had suffered for some months from hoarseness, but had never had any respiratory difficulty, and had continued working as a stonemason until two days before his death. He then appeared to be in fairly good health and spirits. During the night before his death he had experienced some slight difficulty in breathing, but on the following morning had expressed himself as feeling quite able to go out. After breakfast, however, he suddenly developed dyspnea, and died within half an hour.

*Post-mortem* examination showed the internal organs healthy with the exception of the lungs, which were tubercular. In the larynx the glottic chink was invisible, owing to marked edematous swelling of the aryepiglottic folds, arytenoid region and ventricular bands. The epiglottis preserved its normal contour, being free from edema. Further examination of the larynx revealed almost complete destruction of the left vocal cord, and some superficial ulceration of the right, while an ulcer of considerable size and depth occupied the inner and upper aspect of the left ventricular band. The case is of special interest as a demonstration of a possible sudden fatal complication in the course of laryngeal tuberculosis, without any previous symptoms of difficult respiration.

Sir Felix Semon said that a genuine edema of the larynx very rarely supervened in cases of tuberculosis. In this case the nature of the edematous infiltration was quite different from the ordinary pseudo-edematous infiltration of laryngeal tuberculosis. He was not aware that such a case had ever been described. Perhaps other members had seen similar cases?

Mr. Waggett had seen a case of sudden death from asphyxia occurring in the course of tubercular laryngitis, in the case of a woman suffering from myxedema.

Dr. Herbert Tilley cited the case of a young girl who was under treatment for tubercular laryngitis, in which difficulty of breathing was a prominent symptom. She died suddenly of asphyxia before surgical aid could be procured.

Dr. Watson Williams could recall two cases in which there had been considerable localized true edema of the larynx in the course of laryngeal tuberculosis: but it was never so extensive in either case as to cause a fatal result.

Dr. Turner (in reply) was glad to hear the remarks which had been made, because he had looked into the literature of the subject for the past twelve years, and had come to the conclusion that the case was very uncommon.

### **New Instruments for the Treatment of Antral Empyema.**

Shown by Mr. Acland (introduced by Dr. Watson Williams). Through the kindness of my colleague, Dr. Watson Williams, I am enabled to bring before you to-day some instruments which I have devised for the treatment of antral empyema.

I generally choose to perforate through the alveolar ridge, and these instruments are intended for use in this method.

No. 1. *The borer* is of special size and shape. It cuts the bone of the alveolus very readily when rotated forwards (*i. e.*, from left to right—like a screw), by reason of the fluting or grooving of its edges.

No. 2. *The measurer* may be used to ascertain the depth of the bone traversed before the antral floor is reached. So that if necessary the tube (No. 4) may be cut.

No. 3. *The tube carrier* is a modified screw-driver, on which the antral tube (No. 4) fits, and by which the tube is screwed into the hole made by the perforator.

No. 4. *The antral tube* is a silver-gilt tube which is intended to be screwed into the perforation. It has a screw-thread on its outside, and a slot on its flanged end like a screw-head. In fact it is a hollow screw, which fits on the carrier, No. 3, like a cannula on a trocar. This tube is intended to be worn by the patient during the whole time of treatment, and is provided with a split-pin stopper to keep the food out. The length as supplied is found to be satisfactory for most cases, but in young subjects it may be necessary (after measurement by No. 2) to shorten it with a fine fret saw.

No. 5. *The two-way nozzle* exactly fits the antral tube, and, having a longitudinal septum in it, provides an inlet and exit for the fluids used in washing the antrum.

The *inlet* branch has a modified Higginson syringe attached to it, and the *exit* branch a piece of rubber tubing which conveys the fluid to a receiver. My colleague, Dr. Watson Williams, and I, have each done several cases with this apparatus, and find it very successful.



I may mention that I have found it possible to extract a diseased tooth or root, bore the hole and insert the tube, under one dose of gas.

I have brought with me one of our Bristol students, on whom I had to operate for antral disease, and I propose to demonstrate, with his aid, the advantages of this apparatus in free flushing of the cavity.

Dr. Watson Williams said that he knew from actual practice that the apparatus worked as well as it gave promise of doing in the demonstration. He mentioned a case—the second in which this apparatus had been used; the patient, a child of twelve years of age, had suffered from antral empyema for some years, and the apparatus worked so completely and so satisfactorily, that after a week or two there was no discharge of pus whatever. He had accidentally discovered a method by which the tube might be removed. Feeling that the tube projected too far upwards into the antrum of this patient, he had it shortened and reinserted; it answered very well for a time, but naturally, since it did not project into the antrum, the hole had almost closed over the tube. By allowing the top of the canal to close over, it would be very easy to remove the tube from the lower half and let it fill up. There was no reason to believe the apparatus was difficult to work. He had seen Mr. Acland on many occasions remove a tooth, enter the antrum, put in the tube and stopper during a single “gas” anaesthesia, and he had never seemed to have any hitch or trouble in completing the operation before the patient recovered consciousness. For all cases in which alveolar drainage was suitable, Mr. Acland’s apparatus appeared to be most simple, comfortable and effectual.

Dr. Dundas Grant thought that if a tube of this sort was inserted for permanent retention in the treatment of empyema of the antrum, it was essential that the tube should be as perfect a one as it was possible to get, otherwise the patient was better without one at all. A good many cases did well without the retention of any such tube, simply having a wire fitting into the hole, and a syringe having to make its way through each time. At the same time he had seen great improvement take place in very obstinate cases of antral empyema, where a permanent tube was employed, although the tube was very far from being nearly perfect. He thought the spiral wire drainage tube, which was left open all the time, very undesirable, for it did not prevent the entrance of material from the mouth, and it acted as a cause of irritation. As far as he was able to judge from the demonstration, he certainly thought Mr. Acland’s apparatus was a valuable step in the right direction.

Dr. FitzGerald Powell thought the method of entering the antrum of Highmore through the tooth socket for the cure of empyema had a great deal to be said in its favor. It was necessary to have a good sized opening to allow of free drainage, and to curette the antrum. He was afraid the drills or perforators and tube shown by Mr. Acland were too small to admit of this. He had had drills made which he had used with some success—they were the size of No. 12 to 14 silver catheters—and had used silver wire tubes a size smaller, through which the cavity could be well flushed, and which allowed fair drainage. The method had answered well even in chronic cases, and in one case of three years' standing he got a complete cure. In this case he had had gold tubes, the size of No. 11 catheter, fixed in by a plate attached to teeth on both sides, it being a double empyema. Experience had taught him that the cavity should be curetted, and the tube should extend a good way into the antrum to prevent its being blocked by granulations. Both the tubes for drainage and the perforators were much larger than Mr. Acland's.

Mr. Acland was gratified by the various favorable remarks which had been made by the members of the Society about his little dodge for the treatment of antral empyema.

#### **A New Universal Laryngeal Forceps.**

Shown by Dr. Watson Williams. The essential feature of the instrument was the immobility of one blade, which could be placed in position and kept fixed in contact with the growth or foreign body to be removed, while the other blade was opposed by means of the thumb alone, the forceps being held by the fingers. Moreover, the blades could be readily converted from the antero-posterior to the lateral or up and down action, or again a snare could be fitted to it.

#### **Inflammation of Crypts in the Mucous Membrane covering a Defined Recess in the Roof of the Naso-Pharynx, Giving Rise to Otalgia and Other Symptoms.**

Shown by Dr. Jobson Horne. The patient, a man æt. twenty-five, for three or four months previous to his coming under treatment had experienced pain in the left ear, likened to "a gathering," and his hearing had become impaired.

Clinically nothing was found in the ear, itself, or in the mouth or fauces, to account for the pain. By means of posterior rhinoscopy, however, small circular, sharply punched out crypts or depressions, not larger than the bore of a No. 1 vulcanite Eustachian catheter,

were detected in the outermost part of the roof of the naso-pharynx, directly above the cushion of the Eustachian orifice and the arch of the posterior naris; one on the left side contained pus, and the edges were inflamed and gave the appearances of an ulcer.

Dr. Horne also showed some anatomical preparations of the region mentioned, in order to demonstrate the area he wished to define. This may be described as a secondary dome in the roof, immediately above the outer part of the arch of the posterior naris and the cushion of the Eustachian orifice, and enclosed in an arc drawn from the extreme base of the vomer to the summit of Rosenmüller's fossa. The mucous membrane covering this dome or recess has at times, and more often in elderly and thin subjects, a cribriform appearance, occasioned by the mucous membrane being carried in between the separated and superjacent fibres. Purulent matter may readily find its way into one of these crypts and set up a localized inflammation, and occasion the symptoms in illustration of which the case was shown.

Under treatment the symptoms had completely disappeared, and the hearing was restored to normal, so that the ulcerated appearance was no longer visible, but the crypts which contained the pus could be readily seen. The treatment had consisted of nasal douching, and a mixture containing quinine and iodide of potassium; but there was no evidence suggesting lues.

Dr. StClair Thomson thought that Dr. Horne had withdrawn the term ulceration entirely. There was no ulceration at the present time, although some of the members were still of that opinion. The case was very interesting as being a pendant to the case he (the speaker) had shown at the previous meeting, and to that shown by Mr. Chas. Heath at the March meeting of the Society. Mr. Heath had called attention to so-called "sinuses" in the naso-pharynx. What was visible in the present case was the remains of Luschka's tonsil, with adhesions which crossed to the Eustachian tube and intervening lacunæ. If the remains of adenoid tissue were thoroughly removed with the curette, in all probability all the symptoms would disappear. He ventured to suggest that some of the changes in the anatomical specimen were post-mortem ones. The specimens showed the lacunæ he referred to.

Dr. Jobson Horne thought that the anatomical specimens which he had shown went to prove that Dr. Thomson's theory was not altogether tenable.



### **A Specimen of a Curtain Ring Removed from the Pharynx of a Child.**

Shown by Dr. Lambert Lack. The ring was an ordinary brass curtain ring, about one and a half inches in diameter, and about the thickness of a small Eustachian catheter. The upper part of it was free in the post-nasal space, the lower part free in the lower pharynx behind the arytenoids, the sides being firmly embedded beneath the mucous membrane of the lateral walls of the pharynx. Under chloroform the upper part of the ring was forcibly pulled forwards from behind the soft palate, and the lower part then, with some difficulty, cut through with bone forceps. This latter part was opened out by the fingers, and the ring extracted easily by pulling upwards. The history was that the child, who is now nine years old, swallowed the ring at nine months of age. There was much choking, etc., at the time, and the child was taken to a hospital where, after examination, the mother was told there was nothing wrong. The symptoms had gradually passed off, and the child had enjoyed fair health, being brought to the hospital recently on account of adenoids.

### **Two Cases of Nasal Polypi Treated by a New Radical Method, with Microscopic Sections of the Bone Removed.**

Shown by Dr. Lambert Lack. The first case was a female æt. twenty-five, who had suffered from purulent nasal discharge and polypi on the left side for three or four months. The polypi had been twice removed with the snare, but without much improvement. On examination, several large polypi with pus exuding between them were seen in the left middle meatus. Under gas this region was thoroughly and firmly scraped with a large ring knife (Meyer's adenoid curette), and many polypi and loose bits of bone were removed. A large cavity was excavated in the lateral mass of the ethmoid. The patient made an uneventful recovery, the nasal obstruction was completely removed and the purulent discharge ceased. In about a month a large dry cavity could be seen in the upper part of the middle meatus, and there has been no return of the disease and no other treatment. The operation was performed eighteen months ago.

The second case was that of a man who had suffered from polypi in both nostrils for many years, and had undergone numerous operations with only temporary benefit. Although the polypi had been recently removed, very large masses of polypoid tissue, large fragments of bone, and degenerated mucous membrane was scraped away under general anesthesia from both nostrils. As far as could

be judged almost the entire ethmoid, with the exception of the cribriform plate and lamina papyracea, were removed. The operation was performed only six days ago; the patient has recovered well, and states that he has lost the constant headache and sense of fullness at the top of the nose from which he had previously suffered, and feels "clearer" than he ever did.

The microscopic sections show extensive changes in the bone removed. These are of the nature of a rarefying osteitis. The periosteum is much thickened, especially in its deeper layer, which consists of rows of large nucleated cells. The surface of the bone is ragged from the formation of numerous little bays, which are filled with very large, often multinucleated, cells. The bone cells are larger and more numerous than normal, especially where the bone is invaded. In places the changes have advanced so far that the bone is entirely broken up into fragments, surrounded by osteoclasts, and evidently undergoing absorption.

Mr. Waggett wished to avoid on this occasion entering upon the vexed question of the primary lesion in cases of nasal polypus. It was, however, desirable to insist upon the well-recognized fact that in advanced cases the bony structures were in a state of rarefying osteitis, and often so far deprived of their lime salts as to be flexible and semi-transparent.

Mr. Parker supported Dr. Lack's operations in these cases. He had watched many of his (Dr. Lack's) cases carefully during the last two or three years at the Throat hospital, Golden Square, and he had himself been doing the same operation with results very much better than any other method of treatment would have given as far as he could see. He was now coming to the conclusion that cases of multiple polypi with suppuration had much better be treated in this way; under the more conservative methods of treatment, the polypi had to be removed time after time, which constituted a frequent nuisance to the patient, the suppuration continued, the polypi recurred, and finally, one had no other course but to proceed to a more radical operation in a large number of cases. The method of the operation as performed by Dr. Lack seemed fairly free from danger. Dr. Lack recommended the biggest ring knife of Meyer in the first instance, and after that the small ring knife to finish up with; thus performed the operation did not seem likely to give rise to much danger by encroachment on the dangerous regions. The great point was to make quite sure of removing all the crumbling and diseased portions of the ethmoid bone, and to get rid of the degenerating mucous membrane; if that were done, the results, as far

as he had observed in his own cases and those of Dr. Lack, had been very good indeed.

Dr. Scanes Spicer also supported very strongly Dr. Lack's procedure in suitable cases. He had done it for years himself with similar good results, and congratulated Dr. Lack on the prolonged immunity from recurrence. He thought, however, the disease was not quite eradicated here; there were two or three small "buds" on the left middle turbinal, and the anterior portion of the opposite middle turbinal body appeared to be undergoing polypoid degeneration. In spite of this the results were very satisfactory, because there was no substantial recurrence for eighteen months, which would have taken place if the extensive polypoid degeneration of the middle turbinate body had been treated by simple snaring of individual polypi.

Dr. Dundas Grant thought it would be a pity if the radical operation, such as described by Dr. Lack—excellent as it was in suitable cases—should be looked upon as the routine treatment of multiple polypi. If this turned out to be the case, it would be a decidedly retrograde step in rhinology. They had advanced a great deal in delicate intra-nasal manipulations, and therefore they should all the more be very jealous of any principle or method of procedure which tended to interfere with progress in that respect. He had seen many cases in which the persevering removing of polypi as they recurred resulted in a complete cure: first of all there was a longer and longer interval between the recurrences, and then finally complete cure. It was sometimes necessary to remove the anterior half of the middle turbinal body, which was done *secundum artem* with very much less laceration than would be produced by the ring knife. He would urge a strong plea for the thorough trial of the more delicate manipulatory treatment before such radical measures were adopted. He had not the slightest doubt that there were cases in which nothing short of the operation described by Dr. Lack was of any use, but from his experience, their frequency was of the slightest possible. Cases of his own might have "strayed" from his observation and care, and got into the hands of more radical operators, but he must say for the present he saw very great reasons for persevering with the more conservative treatment.

Dr. Permewan did not think the discussion would be complete without the remarks of Dr. Grant. He, personally, was bound to say he was entirely in accord with the words of the last speaker. It seemed to him that there were two great objections to making this method of operation anything like the routine treatment. First of all, there was



the great risk incurred, and secondly, the fact that you can never be quite sure of having removed the whole of the disease. It was true a previous speaker had insisted on the careful removal of the whole of the crumbling bone, together with the disintegrating mucous membrane, but he did not see how you could be sure of having taken it all away; consequently one great argument in favor of this treatment disappeared. The risk of it must be more or less considerable. He should think that any violent interference with the ethmoid bone might produce injury elsewhere than at the spot at which you wished or intended. In supporting Dr. Grant, he would say that he believed in the majority of cases that nasal polypi, subjected to a carefully protracted and repeated treatment, would in the long run be practically cured, if you could induce the patients to come back often enough to have them treated; he hesitated to use the word "cured" without an epithet, in face of the results of Dr. Lack's operation. There was one other point he wished to add. It was odd when reflecting on the great number of times that this operation had been performed by various speakers that these two cases now under discussion were the only two shown to the Society at the present time, and that it should be thought necessary to congratulate Dr. Lack on the unusually favorable termination to the cases. He thought that showed that such radical results were not obtained as one was at first apt to imagine. Nor did he think in these two cases that the tendency to polypus formation had disappeared. On the contrary, on both sides there are to be seen signs of recurrence. Personally, he had had no experience of this operation, but he should, after hearing what had been said by other members, consider it in exceptional cases with a view to doing something of the kind; the warning should be borne in mind that the treatment must not be rashly undertaken, though it might, after all, be necessary in some cases.

Mr. Parker said, "I said I was almost coming to the conclusion that in cases of *multiple polypi* with suppuration this would probably be the best treatment."

The president said that he thought too big a subject had been entered upon in what was only intended to be a casual discussion, particularly in view of the many cases which still remained to be discussed, and of the lateness of the hour. It, however, seemed to him an excellent subject for a general discussion by the Society, and he hoped that it would recommend itself as such to the Council. Personally, he would only say that there seemed to him quite a host of questions connected with this subject: (1) Did nasal polypus arise from disease of the mucous membrane, or of the bone? (2)

Was it possible that in some cases there was the one, and in others the other origin? (3) Why was there in some cases (in his own experience in a small minority only) suppuration connected with the existence of polypi, whilst in others, and indeed in the great majority, it was conspicuous by its absence? These questions seemed to him an excellent basis for a general discussion. He agreed with Dr. Grant that the radical treatment recommended by Dr. Lack ought not at present to be taken up as routine treatment, seeing (1) that all the questions he had mentioned had not been solved, and (2) that, according to his own personal experience, in the great majority of cases, if the patients presented themselves periodically and regularly for examination after a thorough removal of the polypi, ultimately the disease reappeared at longer and longer intervals, and finally and by no means exceptionally only, did not recur any longer. A cure, of course, could never be promised, in view of the fact that sometimes, even after an interval of five years or more, a fresh recurrence took place; but it remained to be seen whether a similar recurrence was entirely excluded by the radical treatment proposed by Dr. Lack. In conclusion the president said that the whole discussion had revived in a very interesting manner the controversy which, many years ago, had taken place between Dr. Woakes and Dr. Sidney Martin, about the changes seen under the microscope in the specimens removed by the former. No agreement, it would be remembered, was at the time arrived at as to whether the changes in the bone were of a primary or of a secondary nature, yet this was a question of prime importance. Could Dr. Lack, he wondered, advance the disputed point, since the adoption of his radical treatment seemed to him to mostly depend upon that very question?

Dr. Lambert Lack, in reply, said that the controversy between Woakes and Sidney Martin was entirely over the clinical features of the disease, and that Martin had never retracted his statements as to the pathological changes found in the bones removed by Woakes. As to whether the bone disease was primary, and the cause of polypi, or whether it was secondary to changes in the mucous membrane causing the polypi, he thought this question could be very well answered by the results of treatment. If one removed the polypi and left the bone, the polypi recurred, but if one removed the bone at the same time as the polypi, the latter did not return. The speaker had operated upon over fifty cases in the last five or six years, and that had been his experience. He quite agreed that in a large number of simple polypus cases a cure could be obtained with the snare if treatment were persisted in for a sufficiently long time,

but even in the simplest cases he thought a successful result was more quickly obtained if one succeeded in passing the snare round the piece of bone from which the polypus was growing, and in removing both at the same time. If this failed in these simpler cases, he was in the habit of subsequently clipping away the bone with cutting forceps. But in the severer cases of nasal polypus, and especially in those associated with suppuration, such methods were useless. One of his cases had had polypi removed regularly every fortnight for three years, and yet the nose had never been clear; and the man shown to-night had not been able to breathe through his nose for two years, in spite of frequent operations. In such cases he advocated the clearing out of the whole ethmoidal region, by scraping with the ring knife under a general anesthetic; in some cases he had even removed a large portion of the inner wall of the orbit. This method, which removed the whole trouble at one sitting, was surely more advantageous to the patient than the protracted treatment and frequently repeated operations that were otherwise necessary, and which were sometimes ultimately successful; and Dr. Grant's patients would probably prefer it, although it would not give him the same opportunity of acquiring operative dexterity. What some members took to be signs of recurrence of the polypi, was only granulation tissue, which now the diseased bone was removed would shrivel up, and did not require any treatment. Finally, as to the risk, he could only say that having performed the operation as extensively and frequently as he had already said, he had not yet had a result which he could describe as dangerous or serious, and he did not believe the danger was as great as the sum total of the danger resulting from the repeated small nibbling operations.

**Case of Chronic Ethmoiditis Simulating So-Called "Cleavage" of the Middle Turbinate.**

Shown by Dr. Herbert Tilley. The patient, a girl æt. eighteen, complained of severe pain over the nose and around the right side of the face. The middle turbinal was easily visible, and on its under side was a well-marked swelling, between which and the turbinal a probe could be passed. It was impossible to pass a probe to the outer side of the swelling referred to. Kauffman had stated that such a swelling was pathognomonic of antral suppuration, but the exhibitor thought that while such an appearance was met with in chronic inflammatory lesions located in the ethmoidal region, it was only significant of antral disease when associated with suppuration.



In the present case exploration of the antrum showed it to be free from pus.

Dr. Dundas Grant wished to ask Dr. Tilley which of the structures he saw in the nose he considered to be the middle turbinate bone. The more one saw of the nose, the more excuse one could make for anyone who considered the growth in the case under discussion to be the middle turbinal bone. He had seen many cases of hypertrophied mucous membrane over the uncinate process which resembled exactly the middle turbinate body, and could only be distinguished from it by means of the probe. He thought in Dr. Tilley's case he saw three swellings, viz., the uncinate process, the bulla and the middle turbinate. It was sometimes extremely difficult—and it was only possible by using one of those long, very narrow specula, such as Killian's, for median rhinoscopy—to make out which was which. The question of so-called cleavage was one really of old time, which arose when the minuter knowledge of the anatomical parts of the nose was less familiar than now.

With reference to Dr. Grant's remarks, Dr. Tilley said the middle turbinal was easily visible and could not be mistaken for any other structure. The case was shown to illustrate that it only *resembled* a cleavage of the mid-turbinal, but was in reality only a periostitis in the neighborhood of the uncinate process.

### Case of Laryngeal Ulceration.

Shown by Dr. Edward Law. The patient first came under my care on December 29, 1899. He complained chiefly of soreness of the left side of the throat of thirteen months' duration, and of hoarseness of three weeks' duration. For eight months he had also suffered from bad cough, with free expectoration. There was no difficulty in swallowing or breathing, and he considered that his general health was satisfactory. There was no history of syphilis. On examination, a large, deep irregular ulcer was seen involving the left upper edge of the epiglottis. The whole of the larynx was red and swollen, with marked impairment of movement on the left side. He would not remain in London for further observation, but promised to return in three weeks. A mixture containing pot. iod. grs. x, and liq. hydrarg. perchlor. ʒj three times a day was prescribed, along with a pastille of aristol and cocaine.

He did not return until May 4, 1900, but the dose of pot. iod. had been meanwhile increased to grs. xx by his own physician. On examination the ulceration was seen to have destroyed the left

half of the epiglottis, and there was almost complete fixation of the left half of the larynx.

Personally, I believe the case to be malignant, but I should like to have the opinion of the members.

The president particularly asked members with experience of such cases to express an opinion, as the case had been shown with a special request for the opinion of members. Personally, he was afraid it was a malignant growth; it did not look to him in the least either specific or tubercular. There was extensive tumefaction and immobility of the left half of the larynx, and complete loss of the left half of the epiglottis, with considerable enlargement and fixation of the cervical lymphatic glands on the left side of the neck. All this pointed decidedly to malignant disease. Radical operation, if undertaken at all, would have to be very extensive, and the prospect was not good.

Dr. Scanes Spicer hesitated to differ from the diagnosis of the president, who had had more experience than himself in these cases, but the extent of the superficial ulceration in this case, together with the small amount of infiltration, appeared to him to favor the theory of a syphilitic process. There was, besides, the bright red color of the growth and the man's good general health to consider. The condition had existed for several months, and if it was malignant it would (being extrinsic) have had some effect on the man's general condition. It was true there was glandular infiltration, but this might result from the enormous surface of ulceration, which invaded the whole left side of the larynx. The left vocal cord did not seem to be involved in new growth or to be displaced inwards, as would, he thought, be the case, if the ulcerated surface were that of a malignant neoplasm.

Dr. Herbert Tilley had examined the growth with his finger, but was struck by the absence of that induration so characteristic of malignant disease. This fact, coupled with the long history of the ulceration and the excellence of the patient's general health, seemed to throw some doubt on the malignant nature of the case.

Dr. Lack thought it was a typical case of malignant disease. There could not be much doubt with such hard granular infiltration.

The president thought it was quite time that the idea was given up that the presence of malignant disease of the larynx in its early, and sometimes even in more advanced stages, necessarily interfered with the general health of the patient. He had seen too many instances of good general health with quite extensive malignant disease

of the larynx to countenance the notion of the regular early co-existence of general cachexia, which, in his experience, as a rule, occurred very late in the progress of the disease.

#### **Case of Ulceration of Epiglottis.**

Shown by Dr. FitzGerald Powell. A male, æt. forty-four, came to the hospital on May 1st to seek relief for deafness and severe tinnitus; which he states came on suddenly four months ago.

On making a general examination of the upper air-passages, the epiglottis was seen to be swollen, very red and congested, and on its laryngeal surface on the right side a considerable patch of ulceration was observed, the rest of the larynx being normal.

A small hard gland was felt in the left cervical region opposite the thyro-hyoid space. On being questioned, he stated that he had some pain in swallowing for two weeks.

He gives a history of having a chancre when a boy, which was treated by local applications, and which healed in three or four weeks. He had no constitutional treatment, and has had no further signs of syphilis.

He is married, and his wife has had eight children, all healthy. He has had severe cough, and has lost flesh during the last four months.

There are no abnormal signs in the chest.

Dr. Jobson Horne regarded the case as tuberculous. It would be as well to have an examination made of the thorax and sputa before deciding that it was not tuberculosis.

#### **Case of Enlargement of Lingual Tonsils in a Woman æt. Thirty-nine, with Secondary Syphilis.**

Shown by Dr. Henry J. Davis. The patient came to the hospital in January, looking extremely ill, with ulcerative tonsillitis and marked adenitis. There was a deep kidney-shaped excavation of the right tonsil.

Faucial tonsillar tissue is now almost absent, having been undermined and destroyed by the severity of the ulceration, but if the tongue be depressed or protruded, the lingual tonsils, both of which shared in the general inflammation, though, oddly enough, not in the ulcerative process, can be seen as elevated symmetrical masses rising above the sides of the dorsum of the tongue. They are not so large as they were, though still plainly visible.

The severity of the disease has been aggravated by the fact that even the smallest dose of iodide of sodium produces a well-marked rash with the other signs of iodism. The patient is being treated with mercury, but the rash persists, though the throat is well.



The disease was contracted from her husband, a groom, who also at first had severe throat lesions, ulcerative laryngitis and tonsillitis, with mucous patches on the palate, tongue and lips.

He stated that he was suffering from blood poisoning, resulting from the bite of a vicious horse, but as horses are considered immune against syphilis, I did not agree with his diagnosis.

### **Case of Growth in the Neck associated with Edema of One Ary-epiglottic Fold.**

Shown by Dr. Dundas Grant. A middle-aged laborer came under my observation on May 3, 1900, on account of a swelling on the side of his neck. There is a hard oval swelling at about the level of the thyroid cartilage, with its long axis parallel to the internal jugular vein. It is extremely hard, and is quite movable, both under the skin and on the subjacent tissues, and it does not rise with the larynx during the act of swallowing. Above, below and behind it are isolated enlarged glands. It has taken eight months to develop to its present size, the enlargement being more rapid towards the latter part of that period. There is no pain, no difficulty in swallowing, no affection of the voice or respiration. On laryngoscopic examination the only abnormality perceptible is a slight edema of the right ary-epiglottic fold, and such an inward bulging of the outer wall of the pharynx as to conceal from view the hyoid fossa of that side, while the opposite one is easily discernible. On palpation no hardness suggestive of malignant disease is detectable, although the finger appears to reach the ary-epiglottic fold. There is no apparent dental trouble to account for the enlargement of the gland, which at first sight seems an ordinary indolent tuberculous gland. Associated with this swelling of the adjacent portion of the framework of the larynx, the question arises as to whether the two conditions may not be connected, and that we have to deal with a malignant affection. An opinion on this point is specially requested.

Mr. Spencer thought there was an ulcer in the lateral hyoid fossa. This and the feel of the glands in the neck, and the sickly appearance of the patient, gave most likelihood of tuberculosis. On passing the finger down the gland, there was none of that distinct nodular feel which one expected in cancer.

Dr. Dundas Grant would suggest in the first place a course of iodide of potassium; if that did not produce a marked effect he would recommend excision of the enlarged gland, whether malignant or tubercular.

**A Case of Inter and Sub-Cordal Growth, with Hoarseness of Remarkably Sudden Development.**

Shown by Dr. Dundas Grant. A man *æt.* sixty-six came under my care on May 3, 1900, complaining of hoarseness and loss of voice of four months' duration. About Christmas time he was attacked with "cold in the chest," which in a week disappeared; but the hoarseness and aphonia remained from that time to this unchanged. On inspection there is seen on the anterior part of the larynx a pale granular irregular-surfaced growth, which is bilobate, the upper part being rather the smaller, and lying between the vocal cords, the larger and lower half lying below them. It appears to spring from the middle line anteriorly. There is a swelling on the right carotid artery at the level of the left thyroid ala. It is impossible to detach it from that vessel, and it is very doubtful whether it is an enlarged gland, being more probably an irregularity in the shape of the artery.

Mr. Spencer thought the tumor was malignant. It was awkward that it involved the middle line in front, as, if anything were done, no unilateral operation would be sufficient. He advised an exploratory thyrotomy, and removal of the soft parts only on both sides.

Dr. Grant would remove, as suggested by the president, a portion of the growth for examination, and act according to the results obtained. He did not know whether members of the Society would advise removal of the larynx *in toto* in a man of that age, though he was in very good health. The fact of the tumor being in the middle line made a unilateral operation impossible. He thought both vocal cords could be removed without danger.

**Case of Pharyngeal and Laryngeal Growth in a Man *æt.* Fifty-nine—Shown at the March Meeting—with Microscopic Sections of Portion of Growth Removed.**

Shown by Dr. Furniss Potter. The section had been reported on by the Clinical Research Association, who stated that it showed "young inflammatory formation—no signs of tubercle or malignant growth."

Dr. Jobson Horne had kindly also examined the specimen and expressed the opinion that "the histological structure in places was undoubtedly that of sarcoma." As regards the clinical progress of the case, the man had, on the suggestion of the President, had the dose of iodide increased to grs. xx, and had been taking this dose since the beginning of March. Looking at the throat it certainly appeared as if considerable absorption had taken place, and the

patient was most decided in expressing the opinion that he felt much more room in his throat, and could swallow with very much greater ease. Dr. Potter said that he had ventured to bring the case again before the Society, as he considered it of interest, by reason of the uncertainty of diagnosis, and the difference of opinion expressed on the microscopic section.

The President suggested that the specimen be submitted to the decision of the Morbid Growths Committee, in view of the difference between Dr. Horne's opinion and that of the Clinical Research Society.

Dr. Turner agreed with Dr. Horne as to the microscopical sections; the character of the cells and blood vessels were distinctly sarcomatous. There was inflammatory tissue as well, and the clinical appearance of the case supported the microscopical diagnosis, even though the patient had improved under treatment.

Dr. Potter said that the evidence for and against a diagnosis of malignant disease seemed to be evenly balanced. He had intended in describing the case to ask for an expression of opinion with regard to the treatment. He himself felt that the progress of the case under iodide of potassium justified him in continuing the drug. He proposed to adopt the suggestion of Dr. Thomson that mercurial inunction should be given for a time.

### **Case of Laryngeal Growth.**

Shown by Dr. Kelson. A man æt. 37, a teacher, came complaining of loss of voice of five years' duration and gradual onset.

No history of tubercle or syphilis.

Laryngoscopic examination revealed the presence of an opalescent somewhat granular-looking growth, about the size of a three-penny piece, and corresponding to the anterior and middle parts of the right vocal cord, and preventing the contact of the cords on adduction.

Patient stated that two years ago portions of the growth had been removed at Gray's Inn Road Throat Hospital, with considerable, but only very temporary, relief.

Mr. Spencer asked if the growth could be removed completely by intralaryngeal methods. The growth was very broad, and not pedunculated, and well under the cord. He advised that laryngotomy should be performed; it was quite a trivial operation, and one would have to make only a small opening to remove the growth.

Dr. Grant said the growth was attached below, and not above, the right vocal cord, although the mass of it was above; he had exam-



ined the case with great care, and caught one glimpse of the edge of the vocal cord in its entire length, which showed it must be subcordal. The ventricular band bulged over the cord and made it difficult to see the entire edge. The growth might be just below the edge of the cord, and his laryngeal forceps might suffice to remove it completely or sufficiently; that course should certainly be tried before laryngotomy was resorted to. He presumed Mr. Spencer did not mean to divide the thyroid cartilage completely.

Mr. Spencer meant no division of cartilage at all, but a little hole in the region of the crico-thyroid membrane, which would enable one to get in quite well and to remove the growth.

Dr. Powell and other members discussed the case, and expressed great differences of opinion as to whether the growth was attached above or below the cords.

Dr. Kelson thought the growth was above the cord. He was standing by the man at the time other members were expressing the contrary opinion, which greatly surprised him.

The President was strongly inclined to the belief that the growth was above the cord. Would Dr. Kelson bring the case to the next meeting?

Dr. Kelson promised to bring the case again, and if possible to do nothing in the meanwhile.

### **Case of Bilateral Abductor Paralysis.**

Shown by Mr. Wyatt Wingrave. A female, æt. fifty, came to the hospital on Tuesday last, complaining of loss of voice, attacks of difficult breathing and difficulty in swallowing.

The onset was sudden three months ago, without any pain and unassociated with any illness.

On examination the soft palate was almost fixed, the constrictors of the pharynx paretic, and the vocal cords immobile on phonation. The arytenoids moved slightly, but the cords were flaccid, leaving but a very narrow glottis; their edges flapped about with inspiration and expiration.

Beyond some slight swelling of ventricular bands the texture of the larynx was normal. Although sensation of the pharynx and larynx is somewhat diminished, laryngoscopic inspection produces violent inspiratory stridor.

On swallowing, food returns through the nostrils. The voice is not completely aphonic, and the faulty articulation is probably due to palatal paralysis, as tongue, lips and cheeks move well. There are no tremors of the tongue, the papillary reflex and knee-jerks are normal.

Beyond some harsh breathing, a few bronchial rales and the conducted laryngeal sounds, the chest affords no evidence of disease.

She has a pulsus paradoxus, and she has lost weight lately.

The President said there could be no doubt that the patient suffered from bilateral abductor paralysis, more developed on the right than on the left side. There also was unilateral paralysis of the palate. He should give iodide of potassium in the first place, and be guided as to further steps by the progress of the case.

Dr. Grant said the suddenness of the lesion suggested a hemorrhage, but perhaps the history was unreliable.

#### **Case of Ulceration of Larynx.**

Shown by Dr. Davis in the absence of Mr. Paget. The man was a soldier who had syphilis twenty years ago, for which he had never been systematically treated. There were no signs of tuberculosis of the larynx. The patient in addition had a gummatous ulcer of the right lip involving the gums—it was first mistaken for an epithelioma, but was now granulating slowly under iodide of potassium; the laryngeal lesions were now also less marked than they were.

Dr. Jobson Horne said that, although there was undoubted evidence of syphilis, he was quite prepared to hear it suggested that there was an element of tuberculosis in the case.

#### **Case of Radical Operation for Chronic Frontal Sinus Empyema.**

Shown by Dr. Herbert Tilley. When first seen the patient complained of severe frontal headaches, and discharge of pus from the left nostril, which was completely occluded by polypi. There was no discharge from the right nasal cavity, which seemed in every way normal. Over the left sinus there was a well-marked expansion of the bone, the size of a five-shilling piece, which closely resembled an area of syphilitic periostitis. The patient also suffered from enlarged tonsils and adenoid growths. These and the nasal polypi were removed on different occasions before the external operation was performed. The left antrum contained no pus. The headaches disappeared when the nasal polypi and the anterior half of the left middle turbinal were removed, thus allowing free drainage from the upper sinus. It was quite easy to irrigate the latter by means of a Hartmann's cannula.

Having cleared the nose of pathological products the external operation was performed. An incision was made through the inner half of the eyebrow, curving downwards and inwards to just above

the internal palpebral ligament. On retracting the soft parts a considerable portion of the anterior sinus wall was removed. The cavity was filled with a degenerate polypoid mucous membrane, in which were three definite collections of pus. A large perforation in the septum maintained a communication between the right and left sinuses. The left cavity was curetted free from diseased products, and was then found to be very extensive, passing outwards nearly to the temporal fossa, upwards to the frontal eminence, and backwards about one and a half inches in its deepest part. Some idea of the size of the cavity may be gained from the fact that it was possible to pack into it a strip of gauze two inches wide, of double thickness and three feet ten inches in length. This was removed daily, owing to a discharge of pus which was seen to be coming through the perforation from the right sinus, but which at the operation seemed only to be an extension of the left sinus. Within a week of the original operation the right sinus was opened and dealt with, as the left had been, in both cases a free drain having been made into the nose. Small drainage tubes were inserted into both sinuses and led out of the corresponding nostrils, lateral perforations having been made in the upper part of the tube which corresponded with the lumen of the sinus. The external wounds were stitched up with the exception of the lower inner angles, through which the drainage tube projected. The sinuses were syringed out twice daily for a week with boracic lotion, then only once a day. During the last week of the patient's stay in hospital the right tube was entirely removed, and for the left a V-shaped piece of silver wire was substituted, which could be removed and replaced for syringing.

Exactly a month from the date of the first operation the patient left the hospital with very slight scarring, and has not had any sign of suppuration since.

The case was interesting because of: (1) the large sinuses in so young a patient; (2) the obvious expansion of the anterior wall of the left sinus; (3) the communication through the septum of the two cavities; (4) the absence of any sign of suppuration in the right nasal cavity, although the frontal sinus on that side was full of pus and chronic inflammatory products.

The President congratulated Dr. Tilley on the brilliant results obtained in this case.



## AMERICAN LARYNGOLOGICAL, RHINOLOGICAL AND OTOLOGICAL SOCIETY.

SIXTH ANNUAL MEETING.

Held in Philadelphia, May 31, June 1 and 2, 1900.

**President's Address**—DR. D. BRADEN KYLE, Philadelphia.

He made a plea for more general medicine in specialism, and expressed the opinion that chemical pathology would soon take as important a place in teaching as pathological anatomy and histology. During the past winter he said that he had seen many cases of the grip. He was of the opinion that there was as distinct pathological alterations in this disease as in diphtheria, though they varied greatly with the age and with the individual. He believed that during the inflammatory attack there exudes into the perivascular tissue a peculiar material not unlike that deposited in amyloid disease. In the majority of cases alteratives gave the best results. There was abundant evidence to show that this disease exhibited a strong predilection for the accessory cavities. Transillumination had proved very valuable in this class of cases, though, owing to individual alterations in the shape, thickness and configuration of the walls of these cavities, it could not be considered a means of making a positive diagnosis. Laryngeal tumors had received more consideration in the past year than heretofore, and the method of operating described by Dr. W. W. Keen seemed to him an ideal one. The treatment of diphtheria seemed to have remained about the same: the administration of antitoxin and the local use of Löffler's solution. For operations on adenoids he had found oxygen-chloroform anesthesia simple and convenient. The oxygen is passed through a wash bottle containing the chloroform. Turbinectomy, one of the latest fads, was an operation that had been discarded almost as speedily as it had come into prominence.

### **Blunt Dissector and Knife for Tonsillar Abscesses; Paracentesis Knife.**

DR. NORVAL H. PIERCE, of Chicago, exhibited a blunt dissector for opening peritonsillar abscesses. The knife is for the initial incision where that seems necessary, but it is rarely needed. Having reached the abscess cavity, the blades of the dissector are separated, thus favoring the escape of pus.

The third instrument presented was a peculiar bayonet-shaped paracentesis knife with a curved blade having a notch in which the tympanic membrane is caught. With this instrument the membrane can be taken out readily without the use of any other instrument. The curve of the knife and the notch tend to prevent the wounding of the posterior wall of the tympanic cavity.

### **Fibromyxomata of the Nose.**

Dr. M. D. LEDERMAN, of New York, presented a mass of very large fibromyxomata removed from a young girl who came to him complaining of nasal catarrh. Four of them had been removed at one sitting, and three at another, by using a cold snare. There had been but little bleeding although the operation had been done before suprarenal extract had come into vogue.

### **A Plea for an Early Operation in Bilateral Abductor Paralysis—**

Dr. N. L. WILSON, Elizabeth, N. J.

This paper appears in full in *THE LARYNGOSCOPE*, September, 1900, p. 169.

#### DISCUSSION.

Dr. Otto Joachim, of New Orleans, added another case to those collected. The patient on coming to him had already been tracheotomized, and was wearing an aluminium tube which was almost worn out. He had made a laryngeal section, and removed both vocal cords. This had been done without much difficulty. He had kept the man under observation until he was able to breathe for half a day with the tracheotomy tube closed. In that condition he had left the hospital, and had not been seen since.

Dr. Arthur G. Root, of Albany, N. Y., said that he had recently seen one of these cases. The patient was a man, about thirty years of age, who had had some difficulty with his breathing for the previous two weeks. The man was found to be suffering from intense inspiratory dyspnea, and examination of the larynx showed bilateral abductor paralysis. He had advised the immediate removal of the patient to the hospital, stating the serious nature of the case, but the man had positively refused to go. However, early the next morning he had gone to the hospital, and had been tracheotomized, and was still wearing the tube. The cause of the condition appeared to be enlargement of the mediastinal glands, probably as a result of syphilis. In this connection he wished to say that tracheotomy was not an operation to be approached lightly as it was sometimes very difficult. In this instance it had been very difficult. The man had been deeply cyanosed for a number of days previously, his neck was thick, and all the tissues

bled very freely. After the insertion of the tube the man had had a slight convulsion, during which the tube had been momentarily dislodged from the trachea. He quite agreed with the author of the paper that tracheotomy was the operation of choice and that it should be done early.

Dr. Thomas H. Halsted, of Syracuse, said that during the past year he had seen two of these cases. One was a male syphilitic, who was taking at the time 500 grains of iodide daily without relief to the dyspnea, which at times became suffocative. Immediately tracheotomy was advised, and agreed to by the patient, but his attending physician so strongly objected that the patient's family had the operation postponed. A few days later the man died suddenly during the night. The other case occurred in a young man without specific history. At the end of two months he recovered under large doses of iodides and without an operation. In this case the dyspnea was never urgent except on exertion.

Dr. Robert C. Myles, of New York City, said that this subject was of serious importance, and the specialist must have the matter settled in his own mind if he would secure that hearty and immediate co-operation on the part of the general practitioner and his patient which is so necessary to success. As to the choice of operation, it was a question between doing tracheotomy and removing a part of the cords. Personally he would favor the performance of tracheotomy first.

Dr. M. D. Lederman, of New York City, referred to a case in which there had been a paralysis on one side of the larynx due to a growth of the thyroid. A surgeon had tried the injection of iodine into the gland, and that night the patient had had a violent attack of dyspnea arising from edema of the larynx. Scarification and the local application of ice had given relief. In another case occurring in a woman, examination had shown at first nothing but slight redness. A few hours later there was marked edema, and examination showed the presence of a considerable quantity of sugar. This case also recovered, without operation.

Dr. Frederick C. Cobb, of Boston, Mass., spoke of a case in which the diagnosis had lain between paresis of the cords and an ankylosis of the crico-arytenoid joint. The patient had been put on iodide and admitted to hospital. The condition had become worse and tracheotomy had been done. Every attempt to pass tubes between the cords had failed. It was important to give these patients a good breathing aperture, and he would therefore like to know the experience of those present regarding the effect of removing the cords in these cases.



Dr. J. Solis Cohen, of Philadelphia, was invited to discuss this subject. He said that the subject had been admirably presented, and there could be no doubt that immediate tracheotomy was the best plan. If this were refused, it was an excellent plan to coax the patient to carry with him a tracheotomy tube, for, in case of an emergency the mere showing of the tube to the physician called in hurriedly would be a means of saving life. He had known of two or three such instances. Intubation has the disadvantage of depriving the patient of his voice, and moreover there was a chance of the tube being coughed out. He had had no experience with the cutting of the vocal bands, but this operation also deprived the patient of his voice for the most part, and there was danger from cicatricial contraction.

**Nasal and Post-Nasal Synechia**—DR. PRICE-BROWN, Toronto.

This paper appears in full in *THE LARYNGOSCOPE*, September, 1900, p. 182.

**Nasal Synechia**—DR. M. D. LEDERMAN, New York.

This paper will be published in full in the next issue of *THE LARYNGOSCOPE*.

#### DISCUSSION.

Dr. Sargent F. Snow believed, with Dr. Brown, that the galvanocautery had its uses, although it had been greatly abused. In his opinion, there were almost unquestionably two elements engaged in the production of nasal synechia—either a bulged or thickened septum, lessening the normal space, or there was an engorged turbinate. If the septal deformities were removed, the result would be good, but in some cases it was difficult to make their removal thorough. In cases in which there was not too much deflection he was in the habit of turning up the membrane, making a three-cornered flap, and cutting out a portion of the cartilage. Myles' cutting forceps would be found useful for this purpose. By taking out a little button-hole from the cartilage and turning the flap down he had secured the desired space without interfering with the integrity of the septum. An engorged turbinate was the result of a local irritant or of some systemic disturbance. In treating these cases it was his custom to advise the patient to take more exercise, and to give remedies which stimulate the activity of the liver. He never used orthopedic appliances in the nasal cavities with the exception, in rare instances, of a plug to control hemorrhage. Since he had given attention to the general health, securing sufficient space and avoiding irritative treatment his results had been decidedly better.

Dr. J. Stucky, of Louisville, Ky., asked if either of the essayists had noticed marked constitutional disturbance following the operation for the removal of synechiæ. In his practice there had been more constitutional disturbance following this procedure than almost any other nasal operation. So marked was this reaction that he seldom operated on these cases now unless they were in hospital.

Dr. Frederick C. Cobb, of Boston, Mass., said that he had made use of all sorts of splints in these troublesome cases, and had finally come to the conclusion that synechiæ were the result of the surfaces being too close to each other; hence the obvious indication was to separate them. Even in the case of ligamentous synechiæ if one took a trephine cutting on both sides, and used it once, it was only necessary to pass a probe at intervals of a few days to secure a good result without recurrence.

Dr. George L. Richards said that for small synechiæ he had been in the habit of using a Teat cutting forceps with rather wide blades. The most satisfactory synechiæ to treat were those in which sufficient space could be secured by the first operation without resorting to orthopedic appliances, as stated by Dr. Snow.

Dr. Frederick T. Rogers, of Providence, referred to a method that had given him much satisfaction. A fresh piece of egg membrane can be placed between the raw surfaces for a period of five days without causing any offensive discharge. It was useful in ulcer cases.

Dr. L. C. Cline said he could not recall having seen a single case of synechiæ which he could attribute to the galvano-cautery, and he thought the criticisms directed against the use of this instrument were unnecessarily harsh. He believed that when one operated, enough of the turbinal body or septum should be removed to give sufficient space. The application of chromic acid or of nitrate of silver should be sufficient if the space were made large enough at the time of the operation.

Dr. Joseph A. White, of Richmond, Va., said that as long as he could get an instrument above the synechiæ, it was always possible to get it below, that then he had no trouble in removing sufficient tissue. By subsequent packing or by the introduction of the gutta percha tissue employed by dentists the parts could be kept apart. This latter material was better than celluloid because it could be readily moulded, and it was equally clean. The cases that particularly worried him were those with dense, osseous adhesions high up between the middle turbinal and the ethmoid plate. He had known them to be of almost ivory-like density, so that the electric saw had

failed to cut through them. He was not disposed to cut from below for fear of doing damage. He had made use of the burr and drill many times, but the osseous band seemed to keep building up until a thick bony mass had formed.

Dr. Myles said that several years ago he had reported a number of cases of synechiæ of the Eustachian tube to the basilar process to the American Otological Society. The operation when done with the finger was often most satisfactory in its results. It was easily performed under cocaine anesthesia, using the index finger. It had been his misfortune to meet with several cases of synechiæ in the nose resulting either from syphilis or from active and persistent efforts on the part of the rhinologists to plow through, or saw out parts of the ethmoid bone and of the middle turbinate. He had seen more less complete adhesion of the ethmoid bone to the septum. One might cut away the ethmoid bone up to the cribriform plate, when attempting to relieve the condition, and yet the result would not be good. These patients were almost invariably neurasthenic, and disposed to complain. The blocking up of the secretions leave these patients in almost a state of constant suffering. With regard to synechiæ of the inferior turbinal, the point was to separate the parts sufficiently either by excision or moving the walls. One naturally desires to move the septum far enough away, but the vomer here offers an obstacle.

Dr. Emma Musson, of Philadelphia, said that Dr. H. B. Douglass has recently shown that the galvano-cautery point should be used at a dull red heat until it had penetrated beyond the epithelial and hyaline membranes, as that microscopic examination had shown that the cautery was peculiarly destructive to the hyaline membrane, and that unless this precaution was observed we would have as a result a broad superficial cicatrix. May not this extensive destruction of the epithelium and hyaline membranes account for some of the cases of nasal synechiæ.

Dr. Price-Brown, in closing, laid great stress on the importance of leaving the nasal plug in the nose undisturbed for a considerable period. He preferred cotton wool and made the plug very small. In the upper region it was highly important to keep the mucous membrane in a normal state. One advantage of the rubber sheeting was that it is elastic, and after having been placed in position exerts constant outward pressure. He had not observed any special systemic disturbance in these cases, probably because he was careful to employ a very small plug, and so not interfere with drainage. Whenever there was a narrow passage it was desirable to avoid



entirely the use of the galvano-cautery. Whenever a tampon is used and retained in position for any length of time it is important to keep the case under observation and insist on regular cleansing above and below the plug.

Dr. Lederman said there could be no doubt about the tendency of the osseous synechiæ in the upper region to reunite, and the attempts to treat them were not free from danger. It was here that constitutional disturbance was apt to occur. If he found a puffy turbinate and much catarrhal secretion he postponed operation until the mucous membrane could be made more healthy. Many authorities make use of Warburg's tincture as a general tonic in such cases.

**Some Remarks on the Etiology of Retropharyngeal Abscess, with Report of Cases—DR. M. R. WARD, Pittsburg.**

This paper appears in full in *THE LARYNGOSCOPE*, September, 1900, p. 189.

DISCUSSION.

Dr. Richards said that although he had practiced medicine fourteen years he had met his first case of retro-pharyngeal abscess only two months ago. The child had been brought to his office by a physician with the statement that the case was urgent. Examination showed a considerable swelling at the base of the tongue and to the right of the median line. On digital examination he felt a slight but tense swelling. He had inverted the child and opened the abscess with his finger nail, a considerable quantity of pus being evacuated. For a few minutes it had been difficult to get the child to breathe, but it had made a rapid recovery.

Dr. C. W. Richardson, of Washington, D. C., said that he had seen three cases of retro-pharyngeal abscess in children, two of which had been relieved by operative intervention. About six or eight years ago he had seen, in consultation, a child who had a swelling in the neck for a week or ten days. It was supposed to be an inflamed tonsil or an enlarged lymphatic gland. The breathing was very stridulous and the condition of the little patient extremely bad. Examination had convinced him of the presence of pus, and on passing the finger into the pharynx he had detected an enormous swelling extending towards the middle line down as far as the epiglottis. The child stopped breathing at the moment of making the examination, and the father in alarm snatched the little one and ran into another room. The child was heard to cry and gasp, and although he was ordered to bring the child back, he did not do so for a minute or two, and then it was found that the child was dead. This empha-

sized the advisability in these cases of long standing of explaining to the family the possibility of sudden death supervening at the examination or during the operative intervention. There had been no special difficulty either about the diagnosis or treatment of the other two cases. It was difficult to inspect the pharynx of an infant under one year old, and hence these cases were often not diagnosed at first. In most cases the origin of the trouble was in suppuration of the deep cervical lymphatic glands.

Dr. N. L. Wilson, of Elizabeth, said that he had seen two cases recently. One of them had presented an enormous swelling, the child having been suffering for three weeks before coming to him. The abscess had been quickly opened with a bistoury and recovery ensued. The other case had been sent into hospital for diagnosis, and he had failed at first to make the diagnosis. The child had been kept under examination for two weeks, and had then been referred to a general medical practitioner who had made the diagnosis. The child had then returned to him, and the nature of the trouble had been made clear. In this instance the abscess had originated in tubercular caries of the spine.

Dr. N. H. Pierce said that he had seen two cases. One of them was a child less than one year old, seen at the Post Graduate Hospital. The child was extremely emaciated from inability to nurse, and was on the point of suffocation. For a moment he had been puzzled over the case, for there had been no circumscribed swelling or redness, yet inspection had given him the impression of a foreshortening of the buccal cavity. The whole posterior pharyngeal wall was pushed forward. On digital examination he had detected slight fluctuation, and he had then made the diagnosis. The ignorant parents would not then consent to the operation, but some days later they allowed him to operate. The opening was made externally. At that time the internal swelling was very large, and he thought it was conservative to estimate the quantity of pus evacuated at over four ounces. The tube was displaced in the dressing, causing another accumulation of pus, whereupon all the distressing symptoms again appeared. The child recovered rapidly after re-establishing drainage. In this case there was no vertebral caries.

Dr. F. C. Cobb said that he had had two cases of retro-pharyngeal abscess at the hospital. In one of these nothing could be seen in pharynx because of the large quantity of mucus accumulated there. On palpation, one could feel a solid mass on the pharyngeal wall, but neither he nor other physicians present could detect any fluctuation for four or five days. The symptoms had grown slowly worse dur-

ing this time, and, of course, immediate relief had been afforded by incision. It was well to examine with the finger quite low down.

Dr. E. E. Holt, of Portland, Me., said that when there was any swelling in the neck, whether the ear had been manifestly involved or not, he made it a point to carefully examine the external ear. If he found the posterior superior part of the canal red and sensitive to the touch he had found almost invariably that the mastoid was involved. He cited a case in which the tonsils and pharynx were extensively inflamed and the swelling in the neck was thought to be due to the inflammation in the throat, but upon examining the ear and finding that the canal was inflamed and sensitive in the posterior and superior part, he gave it as his opinion that the mastoid was involved, although there was no external manifestations of inflammation of the mastoid. The patient was in a critical condition, and he was asked to operate and did so, finding the mastoid broken down and a perforation into the digastric fossa and into the lateral sinus. The patient made an uninterrupted recovery.

Dr. Thomas H. Farrell, of Utica, cited a case in which a large swelling had been found on the left side behind the posterior pillar of the fauces. The two pillars were crowded together so that at first sight the swelling looked like an enlarged tonsil. An incision had been made, but it had been necessary subsequently to enlarge the opening to secure proper drainage.

Dr. T. R. Chambers, of Jersey City, said he had seen only yesterday a little child with what he suspected to be a post-pharyngeal abscess. The only symptom was a peculiar crowing breathing associated with cyanosis on awakening out of sleep. The patient was an infant of about nine months. Palpation was unsatisfactory, and caused marked cyanosis and difficult breathing. No swelling could be appreciated.

Dr. Ward, in closing, said that he had endeavored to show that the disease was more frequent than generally supposed, and one met with more often by the general practitioner than by the specialist. It seemed to him rather strange that an infection of this kind of the deep lymphatic glands should so seldom lead to retro-pharyngeal abscess. He saw no good reason for resorting to the more formidable external operation.

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## ABSTRACTS AND BIBLIOGRAPHY.

Arranged and Edited by  
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with the collaboration of the  
**EDITORIAL STAFF.**

It is our purpose to furnish in this Department a complete and reliable review of the world's current literature of Rhinology, Laryngology and Otology.

Authors noting an omission of their papers will confer a favor by informing the Editor.

### I. NOSE.

**Congenital Atresia of the Choanæ**—J. MORF—*Archiv für Laryngol.*, Band x, Heft 1, 1900.

Körner's view that deformity of the superior maxillary and the bony structure of the nose depend on obstructed nasal breathing seems to have been contradicted by recent investigators. Fränkel has shown that a highly arched palate, septal deviation, anomalous position of the teeth, and a V-shaped upper alveolar arch, stand in no relation to the presence of a pharyngeal tonsil. H. Haug says that 28.6% of the cases of congenital atresia of the choanæ have a normal palate, the prevailing opinion being that these abnormalities depend on racial peculiarities of the skull, and not on extra-uterine nasal obstruction.

The author gives the history of a case of his own where the left nostril was entirely occluded by a partition part bony, part membranous. The palate was highly arched, but the asymmetry was not marked, the right side being nearly as high as the left, in spite of the fact that the right nostril had always been freely open. The author is inclined to think the high palate more due to the general condition of leptoprosopia than to the nasal obstruction.

VITUM.

**Ozena**—F. SIEBENMANN-BASEL—*Correspondenzbl. für Schweizer Aerzte*, March 1, 1900.

An elaborate paper which goes into the pathology of the disease to a considerable degree. The characteristic atrophy of the turbinal bones depends on an easily demonstrable lacunar resorption. The metaplasia of the mucous membranes consists in a conversion of the cylindrical into squamous epithelium. In severe cases the membrane takes on the characteristics of an epidermis-like structure. The glandular epithelium atrophies and the efferent ducts become widened. The cavernous tissue loses its muscular elements and the power of distension is lost. The number of the blood vessels is, however, not diminished. This metaplasia is found in cases of narrow-nosed individuals, but the genuine ozena is almost always confined to individuals with broad, low noses (platyrrhinia). It is evident, therefore, that this latter form of the nasal organ is most favorable to the development of the disease.

As to treatment, the author is not enthusiastic in regard to many plans that have been advanced, but thinks that painstaking cleanliness will accomplish all that we can hope for.

VITUM.

## II. MOUTH AND NASO-PHARYNX.

**Indications for and Method of Operating upon the Middle Turbinate Bone**—JOHN P. DAVIDSON—*Va. Med. Semi-Monthly*, March 9, 1900.

The indications which cause a demand for operative procedures upon the middle turbinated bone are as follows:

1. For a large and well-defined class of cases suffering from nasal obstruction.
2. To remove an etiological factor preparatory to and for the further treatment of nasopharyngitis, and chronic laryngitis.
3. For the relief obtained in certain cases of chronic catarrhal otitis media.
4. For the beneficial effects procured in cases suffering from reflex nervous symptoms, either accompanied or unaccompanied by asthma or hay fever.

W. SCHEPPEGRELL.

## III. ACCESSORY SINUSES.

**Foreign Bodies in the Maxillary Sinuses with Report of a Case**—

R. J. WENNER, Cleveland—*Cleveland Journal of Medicine*, March, 1900.

The author's case is one of empyema of the left maxillary sinus, perforating the floor of the orbit, allowing pus to accumulate posterior to the eye ball. Pus was also found on autopsy below both lobes of the cerebellum. The floor of the antrum was found necrotic, and a growth the size of a small walnut, involving the hard palate, was reported to be a giant-celled sarcoma. On opening the antrum the curettage brought away a small tooth; another being removed at one of the subsequent dressings.

In response to a circular letter the author received the report of 3,409 cases of antral empyema, of which number less than one per cent were directly due to some foreign body. In fourteen cases teeth were found in the antrum.

STEIN.

**Treatment of Empyema of the Frontal Sinus**—WINCKLER—

*Münchener Medical Wochenschr.*, January 16, 1900.

This paper is written as a protest against adopting any one method of operating in all cases of empyema.

Kuhnt's method, which the author thinks most in vogue, he charges with being connected with too great facial deformity. Under certain circumstances it may be resorted to, but unless there is some special indication for it, we ought to make use of one of the osteoplastic methods like Czerny's or Küster's.

VITTM.

## IV. LARYNX AND TRACHEA.

**Hysterical Aphonia with Closure of the True and False Rima Glottidis at the Moment of Phonation**—ROTH—*Wiener Klin. Wochenschr.*, February 22, 1900.

At a meeting of the Vienna Laryngological Society, held February 1, 1900, the author exhibited a case of hysterical aphonia where at the moment of phonation the false bands were seen to approach each other completely, leaving only a small rounded opening posteriorly through which could be seen a little of the true cords which were apparently also closely applied to each other with the exception of a still smaller opening at their posterior extremity. This condition could be brought about by almost any emotional excitement and could be terminated by a marked irritation of the skin of the front of the neck. The irritation made use of was the faradic current. The author was of the opinion that the condition was brought about by over-activity of the thyro-arytenoideus superior, this muscle bringing the false bands together and bellying them out until they came in contact with the underlying true vocal cords, which latter were thus prevented from vibrating.

VITUM.

## V. EAR.

**Acute Necrosis of the Temporal Bone, following Scarlatina Complicated with Diphtheria**—HERMANN—*Med. Bulletin*, January, 1900.

Three such instances are reported. The peculiar features of these cases were the rapid progress of the disease; absence of retro-auricular swelling to any degree; a greenish-gray appearance of the bone after same had been exposed; and the extent of the destructive process. The author's conclusions from these cases are: In the course of scarlatinal diphtheria, acute necrosis of the mastoid and petrous processes may occur with complete destruction of the bone. Surgical intervention may be undertaken with some prospect of success. Operation is indicated when, in the absence of all signs of retention of pus, retro-auricular pains supervene, accompanied by very active febrile movement.

LEDERMAN.

**The Operative Opening of the Middle Ear in Chronic Suppurative Diseases**—VICTOR HAMMERSCHLAG—*Wiener Klin. Wochenschr.*, October 26, 1899.

A careful analysis of 113 cases operated on in Politzer's clinic. The nature of the paper does not permit abstracting.

VITUM.



## VI. DIPHTHERIA, THYROID GLAND, ESOPHAGUS, ETC.

### **Surgical and Pathological Features of Tuberculosis of the Esophagus, with Reports of Two Autopsies**—WILLARD BARTLETT—

*Med. Review*, January 20, 1900.

This is an extensive and rather exhaustive paper, to which is appended a copious bibliography. The literature of the subject warrants the author, he thinks, in concluding: 1. That tubercular affections of the esophagus are exceedingly uncommon; 2, that the authors who treat tuberculosis as an entity and dismiss the subject without even a mention of the esophageal lesions, fail to present a comprehensive view of the subject. These lesions are: 1, the tubercle itself; 2, the ulcer; 3, the fistula; 4, the diffuse round-celled infiltration observed in any or all of the structures in the neighborhood of one of the three first-mentioned abnormalities.

The reports of the autopsies are illustrated by photographs and the lesions of the esophagus minutely described, and the author holds that they illustrate at least the tendency to involvement of the esophagus in chronic lymphatic tuberculosis. In neither case did clinical manifestations suggest to the attending physician the possibility of an esophageal lesion. The use of the esophagoscope in every case of pronounced general lymphatic tuberculosis is suggested.

A review of the surgery of the esophagus is given, which shows that all portions of the organ are amenable to surgical treatment and that partial and total resection can probably be done on the esophagus.

EATON.

## VII. NEW INSTRUMENTS AND THERAPY.

### **Treatment of Hay Fever**—A. E. ABRAMS—*Annals O., R. and L.*, May, 1900.

The author states that hay fever occurs exclusively in individuals of acquired or inherited neurotic temperament, and for this reason the disorders cannot always be cured by the same remedy or line of treatment any more than a prescribed course of diet and remedies would be applicable to all cases of neurasthenia. In the treatment he lays much stress upon obtaining the co-operation of the patient for a period of time which, in many cases, must be extended over years rather than weeks or months. As the time for the anticipated attacks approach the patients must be warned against all overexcitement or depressing influence. As a tonic the author has found nuxvomica or strychnia more useful than any other medicine. Opium he regards as dangerous, while the bromides have a limited range of usefulness. In especially nervous cases the common pill of camphor, hyoscyamus and valerian proved quite useful. In his opinion, heroin promises to be an important addition to our means of allaying the accompanying cough or asthma, and is an excellent aid in the treatment of gastro-intestinal irritation that some of these cases suffer from. The initial dose should be small, not over one-thirtieth of a grain, every two or four hours at first. While it should not be used unguardedly, it is much less likely to produce habituation than opium or morphine. All necessary operative work on the nose should be done before or after the hay fever season.

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## ORIGINAL COMMUNICATIONS.

(Original communications are received with the understanding  
that they are contributed exclusively to THE LARYNGOSCOPE.)

### PRIMARY EPITHELIOMA OF THE ANTRUM OF HIGHMORE.\*

BY H. HOLBROOK CURTIS, M.D., NEW YORK, N. Y.

A case of so rare occurrence presented itself in my private practice on May last that I present it to the section as of especial interest. A lady of fifty years had complained for two weeks of neuralgic pains of a severe type, involving the distribution of the fifth and seventh nerves on the left side of the face. There was found pronounced pain on pressure over the antrum, but no evidence of pus in the ostium maxillare. Transillumination showed a marked umbra of the orbit and an opaque shadow in the vicinity of the antrum of that side.

There being no teeth in the upper jaw behind the first molar, I trephined through that socket and obtained a free bloody discharge intermixed with brown caseous material. Syringing caused the exit of but little fluid from the nose. The nasal cavity at that time was apparently healthy and the turbinates appeared normal. The pain was relieved for a few days by constant syringing, but the following week it increased in severity, and it became impossible to introduce the canula of the syringe. Within ten days the nose became occluded on the left side and the region of the jaw became peculiarly sensitive, swollen and discolored. On the fifteenth day after the exploratory operation the cheek became swollen and edematous, and the region of the third molar alveolus became soft and broke down. Thus far the orbit had not become invaded. I removed the patient

\* Presented at the last meeting of the Eastern Section of the American Laryngological, Rhinological and Otological Society, Philadelphia, May, 1900.

to a private hospital, and placing her under ether made a large opening involving the three posterior alveoli and the canine fossa. In the presence of a free hemorrhage I evacuated with curettes and the sharp spoon the entire cavity of the antrum and explored thoroughly with my finger to ascertain the condition of the walls. The floor of the orbit was like tissue paper and the entire bony walls of the antrum seemed to be spongy and on the point of breaking down. I promptly packed with iodoform gauze and submitted the scrapings and por-



Second Week.

tions of the soft growth to Dr. Denton for microscopic examination. The pathological report stated that the mass was composed of a network of new vessels holding within the meshes closely packed epithelial cells. There were evidences enough in the specimens taken to show that we had to deal with a most malignant type of epithelial cancer, though the slides were not as satisfactory as could be wished on account of having only detritus and broken-down portions of the growth to examine microscopically. The condition of the patient did not warrant an immediate resection of the superior maxilla even had it been advised by the consulting surgeons. The cavity was syringed with peroxide of hydrogen to counteract the



characteristic odor, which was particularly offensive, and packed daily with iodoform gauze.

From the date of removal of the growth the invasion of the surrounding structures was rapid in the extreme. The mouth was first invaded to the median line of the arch, the orbit rapidly following in order of attack, the eye closing and the lids becoming edematous. The tumor caused the face on that side to become as large as an apple with the skin drawn tightly over the invading tumor. The patient at the end of the second week complained of difficulty in swallowing and the glands of the neck were becoming involved. The nose had lost its outline by the fourth week, the tumor pushing the nasal bones to the right and invading the cavities of both sides. The pain at this time had become so severe that sometimes five grains of morphia sulph. were administered during a single night. Death fortunately relieved the terrible sufferings at the end of the sixth week after the evulsion of the contents of the maxillary antrum.

The points of interest seem to be:

*First*—The primary invasion of the antrum by the cancer.

*Second*—That the growth proved to be an epithelioma.

*Third*—That after operative procedure the growth extended with such startling rapidity.

The statistics of cancer of the nasal cavities are given by Dr. W. Kunmel in "Heymann's Handbuch der Laryng. und Rhinologie," as follows: "M. Schmidt found 9 cases in 42,635, or 0.021 per cent, while in the Universitäts Poliklinik, Berlin, but 2 occurred in 27,600 cases."

Carcinoma is of rarer occurrence than sarcoma; in the above statistics it occurred in 0.026 per cent to 0.036 per cent of all cases.

The point of origin was given as most frequently the anterior portion of septum. Then follows the origin from the lower turbinates. He says, however, that many of the latter actually arise from the antrum, whose walls are perhaps more frequently than the nose the seat of cancer.

Coakley, in his book published in 1899, does not mention carcinoma or epithelioma of the antrum. He refers only to sarcoma and osteo-sarcoma as the two most frequent forms of malignant growths invading this cavity.

Lennox Browne, fifth edition, 1899, says: "Primary nasal cancer is rare, and is mainly epithelial." He goes on to state that his previous conviction, that benign tumors of nasal origin may become malignant, has been fortified by his own and the experience of others.

Kyle, "Diseases of the Nose and Throat," 1899, says: "Sarcoma and carcinoma of the antrum may be either primary or secondary."

No mention of carcinoma of the antrum is made in Bosworth's work.

Tissier, "Tumeurs de Nez et des Sinus," *Ann. de Mal. de l'Oreille et du Larynx*, J. xxiv, 1898, goes into a description of the tumors of the antrum. He classifies them as (a) mucous cysts, (b) dental cysts, (c) benign tumors, (d) malignant tumors.

Heyman found on examining 250 skulls that there existed in 14 a single mucous polyp in the antrum. They are almost never recognized during life.

In reviewing the literature of the subject it is interesting to note that several observers have reported the transformation of mucous polypi to carcinoma, which is in accord with the theory so warmly advanced by Browne a few years ago.

Duret, *Journal d. Soc. Med. de Lille*, 1887, says that six months ago he excised some polyps from sup. turbinate region in a man of seventy-five years. There was very profuse hemorrhage. Two months afterwards a phlegmonous inflammation appeared about inferior border of the orbit. Pus was found by incision. A month later the border of orbit became swollen and projected to the size of a lady apple. The anterior part of the sup. maxillary bone was removed and it was found that the tumor, which proved to be an epithelioma, had invaded the antrum. It had broken through the orbital plate and was attached to the anterior part of the cribriform. The remarkable fact observed was that the walls of the antrum had not become deformed.

J. B. Hamilton, *Journal Am. Med. Assn.*, 1886, reports a case of carcinoma of antrum complicated with nasal polypi.

E. Fink, *Arch. f. Laryngol.*, 1894, p. 198, says: Billroth in his work, "Ueber den Bau der Schleimpolypen," denied the possibility of the transformation of a benign to a malignant growth. The theory is, however, upheld by Michel, "Die Krankheiten der Nase," 1876; also by Sajous, Massei, Delstanche et Marique, *Ann. des Mal. de l'Oreille*, 1884, 3.

Schmiegelow, *Rev. de Laryng.*, 1885, cites two cases of transformation of polypi into carcinoma. \* \* \*

Bayer, *Deut. Med. Woch.*, 1887, exhibited a mucous polyp which had been removed from the roof of nose, the lower half of which had become a villous cancer. These cases must be rare, for of 11,131 carcinoma examined but 4 were from the nose or sinuses.

Fink reports a case, aged thirty-three, male, who for twenty years

had submitted to repeated operations for removal of polypi in left nostril. Esmarch, in Kiel, had first diagnosed polypi of antrum and advised a free operation. This was finally done and a medullary carcinoma was found which later invaded the cervical vertibræ.

Morgani, in 1779, recognized the presence of polypi in the antrum. Zuckerkandl says they are found in 2 per cent of all cases, while Heymann puts the ratio even to 6 per cent.

The only case I find recorded of an epithelioma primarily arising in the antrum is that of A. Caselli of Genoa, (*La Riforma Medica*, 1886, p. 113), who describes a case very similar to that which has been made the subject of this paper.

Since reporting the above case at the May meeting of the Society in Philadelphia, I hear of a case of primary epithelioma of the antrum that has been reported by Dr. Wendell Phillips of New York.

118 Madison Avenue.

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## REPORT OF A CASE OF SPONTANEOUS CURE OF A SEVERE MASTOIDITIS.

BY H. S. MCGAVREN, M.D., SACRAMENTO, CAL.

A girl, ten years of age, was brought to my office by her parents, for treatment of an acute suppuration of the middle ear, right side.

The ear differed in no particular from the ordinary case of this trouble, but, on examining the left ear, I found a marked depression of the mastoid eminence, very similar in appearance to that following an ordinary operation for mastoiditis, except that it was cup shaped, nearly round, and appeared to be very deep. There was no tenderness.

The history elicited was clearly the history of a severe case of mastoiditis, which ran a course of several weeks, and which closed after the exfoliation of a bony mass, which the child's mother said was about the size of her thumb nail. No physician was consulted during the course of the trouble, and the only treatment was simple cleansing with some household remedy.

The trouble occurred some two years before my examination, and the cure appears to be complete. The hearing, as I remember the case, was very good; but expecting to see more of the child, my notes were not as fully and carefully taken as they might have been.

I have lost all track of the case.



## CARCINOMA OF THE LARYNX—LARYNGECTOMY.\*

BY JOSEPH S. GIBB, M.D., PHILADELPHIA, PA.

Laryngologist to the Episcopal Hospital, etc., Philadelphia.

In discussing the subject of carcinoma of the larynx, Mr. Lennox Browne very properly remarks that each case should be reported. While it is pleasanter to report a case and present the patient than to show specimens, it is in keeping with true scientific progress to record our failures as well as successes.

In the case which it is my privilege to report at this meeting, though we have not been successful, it is hoped the details may not be uninteresting, and if mistakes have been made we may profit by them.

The subject of this sketch was a strong, vigorous Welshman, of good family history, denying syphilis. He was an engineer, and until a short time before he applied for treatment was able to pursue his trade. The first he noticed of his throat trouble was about two and a half years ago. The symptoms were slight hoarseness, dyspnea and tire upon exertion. He attributed his condition to cold contracted during his work and paid little heed to it. These symptoms continued with very little increase and with no medical advice until August, 1899, when, during an unusually severe coughing spell, he expelled a hard, grisly substance (these are the patient's words) from his throat, which was followed by quite free spitting of blood. For a period of two weeks succeeding this attack he noticed the voice was clearer and the dyspnea had nearly disappeared.

Upon the reappearance of the difficult breathing and hoarseness there was in addition cough and bloody expectoration.

When the patient first presented himself for treatment, about November 1, 1899, there was considerable stridor in the respiratory tract, manifestly worse in inspiration. Considerable difficulty attended the initial laryngoscopic examination in consequence of an exceedingly irritable pharynx, a short frenum linguæ, which prevented the proper protrusion of the tongue, and a short, thick band which would continually get in the way of the examiner. However, after some little training, these difficulties were overcome.

Our record shows the following at the first examination: "The laryngeal mucous membrane is unusually vascular. On the right

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\* Read before the annual meeting of the American Laryngological, Rhinological and Otological Society of Philadelphia, June, 1900.

lateral wall of the larynx, extending from the cord upwards to nearly the base of the arytenoid cartilage, is a new growth, pinkish in color, in part sessile and part pedunculated, presenting a warty appearance and bleeding freely upon the slightest touch of the probe. This growth encroaches somewhat upon the lumen of the larynx; it covers the usual landmarks and the cord of the right side is indistinct.

"Just above the normal position of the true cord there is a pedunculated, warty-looking mass, which during phonation falls over and between the cords. This, doubtless, accounts for the inspiratory effort and the loss of voice. The left side of the larynx is entirely free of morbid growth."

The laryngoscopic appearances and the unusual vascularity led me at once to suspect malignancy. The matter was too serious, however, to be guided entirely by the suspicion, so a determined effort was made to remove a piece for microscopic examination. This was accomplished in a short time and submitted to the pathologist of the Polyclinic Hospital for examination. The pieces removed, several in number, varied in size from the head of a large pin to a pea.

The full report of Dr. Kirkbride is appended. The result of his examination led him to the belief that the growth was probably specific in origin, but at the same time he stated that malignancy was not negatived by the examination of these specimens.

The case was now presented to the Section of Otology and Laryngology of the College of Physicians of Philadelphia and the fellows requested to give their opinions. The consensus of opinion was in favor of syphilis, though I believe that none of the gentlemen present felt that an accurate diagnosis was possible. Acting on the suggestion of some of the fellows, it was determined to place the patient on full doses of the iodides and to increase the same to the point of tolerance.

Adhering to the original view of the case as to its malignancy, and while the iodides were being pushed, an effort was made to clear the larynx and submit the growth from time to time to the microscope in the belief that the deeper structures would show malignancy. This was done, and accomplished two objects: (1) Great relief to the dyspnea, which by this time had become urgent, and (2) the deeper structures showed unmistakable evidence of malignancy. The iodides, of course, were of no avail.

The second report of Dr. Kirkbride is also appended. In this, after a description of the microscopic appearances, he makes the diagnosis of epithelioma (squamous cell carcinoma). In conclusion,

he very properly makes this comment: "This case is therefore interesting as illustrating the difficulty in obtaining a portion of the tumor proper for examination; it also shows that one negative result does not disprove the presence of a malignant growth."

With this very clear and careful report it was felt that some radical measures should be taken. The growth, which had been nearly cleared from the larynx, rapidly recurred, and the patient's condition was again becoming desperate. The growth was still confined to the right lateral wall, though it had encroached more upon the lumen of the larynx than formerly; there were no enlarged glands nor was there evidence of metastasis. The patient's physical condition, other than fatigue from loss of rest and imperfect aëration, was splendid. It seemed that if there was ever a case suitable for complete extirpation of the larynx this was one.

The matter was too serious, in my judgment, to rest with the evidence we had. A specimen of the growth was, therefore, submitted to Dr. W. E. Robertson, the pathologist of the Episcopal Hospital. He unhesitatingly confirmed the diagnosis.

In consultation with Dr. G. G. Davis, surgeon of the Episcopal Hospital, laryngectomy was determined upon and performed by Dr. Davis, March 15, 1900. The following is Dr. Davis' report:

"The patient was a stout, well-built man of forty-eight years of age. The operation was one of urgency on account of recurring attacks of dyspnea. His temperature had at times been above normal, but on the day of the operation, which was cold and snowing, he seemed in fairly good condition. The neck was thoroughly cleansed the day previous to operating and covered with a weak, moist bichloride dressing. It was again cleansed previous to operation. The hands of the operators and assistants and nurses were disinfected by permanganate of potash, and all wore rubber gloves except during the removal of the larynx, when the operator removed his and again disinfected the hands with the solution. No general anæsthetic was used, eucaine solution, boiled, being injected with a sterilized hypodermic syringe. Seventy-five minims, or three syringefuls, were used during the operation.

"A straight incision was made in the median line from just above the hyoid bone to the suprasternal notch. The facias were divided, the sternohyoid and thyroid muscles loosened and turned aside, the isthmus of the thyroid, which was very small, ligated and divided and the trachea laid bare. On incising the trachea at the lower border of the cricoid cartilage, bleeding occurred, and eucaine was then injected and the divisioning completed with the paquelson cautery.



After the trachea was well opened, eucaïne was injected into the posterior wall, the mucous membrane seared with the cautery and then divided with the knife. The trachea was then loosened and brought forward. The larynx was then removed from below upward and from the left side toward the right. Bleeding vessels were caught and carefully clamped with hemostatic forceps. The sides of the upper portion of the esophagus were brought together with two or three catgut sutures; the wound above the trachea was approximated by two silk worm gut sutures. The upper end of the trachea was sutured to the infolded skin by silk sutures and the wound and surrounding parts painted with an ethereal solution of iodoform and benzoin, called Whitehead's paint. He left the operating table comparatively comfortable, breathing quietly, with a pulse of 104, and showing not the slightest evidences of shock. Very little blood had gotten in the trachea and this was at once blown out. When asked afterwards, he stated that he had not suffered much during the operation, except once or twice, which was probably when the superior laryngeal nerves were divided. He was placed in a room, the temperature of which never fell below 80°, the air being kept moist by two pans of boiling water. Gauze was laid over the tracheal wound to prevent the entrance of any dust. Following the operation there was considerable coughing and expectoration of tenacious mucus, for which steam inhalations of alkaline sprays were used. His temperature, which soon after the operation was 101°, gradually rose till the time of his death on the fifth day. On the second and third days he swallowed whiskey and milk, but a small amount making its appearance below, caused us to stop it on the fourth day.

"The tugging on the trachea, due to coughing, caused the stitches, which united it to the skin, to cut through, and most of them were removed on the third day, leaving about a quarter of an inch between the upper end of the trachea and skin. This exposed surface, and also the small raw surface below the wound above and the posterior upper edge of the trachea, suppurated. The wound above, from the hyoid bone to the upper edge of the trachea, healed by primary union except a small fistulous tract. On the third day his mind was somewhat disturbed, on the fourth he was wildly delirious and died on the fifth day. There was at no time any evidence of bronchopneumonia. Post-mortem examination revealed an intense congestion of the trachea, but no evidences of pneumonia. The other organs showed a highly congested and softened condition that the pathologist, Dr. Robertson, regarded as an indication of sepsis. There were a few drops of pus when the trachea had been drawn

forward from the esophagus, but no confined or extended collection. The wound from the hyoid bone to the trachea below was healed by primary union, with the exception of a very small fistulous tract. Cultures made from various organs showed abundant streptococci, and death was attributed to streptococcus infection.

“That death was due to infection, being probably true, the question arises as to the source from which it came. That it came from without, in view of the precautions taken, I cannot believe. It probably came from the lower end of the larynx, as it was the seat of an ulcerating carcinomatous mass. If he was affected at the time of the operation with a mild streptococcus infection, the operation was sufficient to account for its rapid increase and fatal result. The healing of the upper wound seems to show that the infection was mainly located in the parts below. The technique of the operation is by no means settled. Some say to do the tracheotomy and remove the larynx at the same sitting. It is needless, perhaps, to say that, in view of my experience in this case, I no longer favor this procedure. The doing of a preliminary tracheotomy would have fixed the trachea in position, and had coughing followed, a subsequent removal of the larynx. The trachea would not have jumped up and down, tugging itself loose from the skin attachment, as occurred in this case. I see no advantage from packing the wound, as in the present case it healed by primary union.

“In this case, an esophageal tube allowed to remain in would have been of no particular service. He swallowed well on the second and third days and could have swallowed, had we let him, on the fourth.”

The following are the notes on the necropsy by Dr. Wm. E. Robertson:

“*Carcinoma of Larynx.*—Necropsy about twelve to fourteen hours p. m. Body of a very muscular man. Subcutaneous fat, very well developed. Post-mortem, rigidity moderate and that only in lower extremities. There is a partly healed operation wound in the middle line of the cervical region. Small amount of pus along edges of wound just above attached tracheal opening. Esophagus seemed to be entirely closed.

“*Thoracic Cavity.*—No pleural adhesions. Pleural cavities dry.

“*Lungs.*—Intensely congested drip on section. Crepitate fairly well throughout; no apical sears; no bronchitis or bronchiolitis, but the mucous membrane of the trachea and bronchi, down to the finer ramifications of the latter, were intensely red.

"*Heart*.—Pericardial fluid about normal. Musculature soft. Endocardium intensely dark red in all four cavities, especially on the right side; however, no valvular defects. Eustachian valve not patulous.

"*Abdominal Cavity*.—Liver enlarged and of a peculiar uniformly pale color—a light chocolate. No gall stones.

"*Spleen*.—Enlarged, quite soft, and on section presented what I took to be capillary extravasations.

"*Kidneys*.—Red, soft, enlarged, seat of parenchymatous change; recent and old interstitial change. Capsule stripped with difficulty, leaving a granular surface. There were areas of what I took to be capillary extravasations in the cortex and between the pyramids.

"*Pancreas*.—Softened, parenchymatous change.

"*Intestines*.—Congested in small areas here and there. Appendix normal.

"*Cultures* from heart, blood, spleen, liver and lungs showed a *streptococcus* in pure culture.

"The tissues removed from the larynx intra-vitam and that taken post-mortem presented the same character, viz., a squamous epithelioma, containing numerous papillary outgrowths in and around it. Pearly bodies were present in great numbers. It was impossible to say with absolute certainty where it arose, but, from the nature of the growth, it must have taken origin from the vocal cords, either the true or false, since they are the only regions in the larynx provided with stratified squamous cells."

What is there to be learned by a review of this case?

*Firstly*.—Was complete extirpation of the larynx the proper procedure? Of this, I think, there can be no doubt, for the following reasons: The diagnosis had been carefully and certainly made; the patient's life was in imminent danger, necessitating some radical procedure for relief. There were three measures from which to choose to accomplish this result: (1) Tracheotomy: This would have been only a palliative measure and given but a brief respite, and hence discarded. (2) Partial laryngectomy: Removing all visible diseased tissue from the larynx, but leaving the framework. I have never felt that this operation was a rational surgical procedure in malignant cases for the reason that we can never be quite sure that all malignant tissue has been removed; hence I urged against it. (3) Complete laryngectomy: This latter was selected because it gave the patient a chance of complete recovery and at the same time relieved the urgency of the symptoms.



*Secondly.*—Is there aught to learn in the technique of laryngectomy from the present case? My experience in these lines has been too limited to venture upon a discussion of the surgical aspects of the case. I will leave that to abler hands. But there is one feature which the experience gained in this case emphasizes, and that is the necessity for fixation of the trachea by a preliminary tracheotomy.

In discussing the various steps of the operation with Dr. Davis prior to its performance I advocated this step, but it was not with the idea of fixing the trachea so much as to accustom the bronchia and lungs to the new method of receiving air and to render the administrations of a general anesthetic possible, which seemed to commend it.

In the light of the present case, even more than these much to be desired conditions, is the elimination of an extra source of infection which the tugging of the trachea and consequent breaking of the stitches caused.

*Thirdly.*—From whence came the sepsis which seemed to bring about the unfortunate termination? I am in entire accord with Dr. Davis as to the improbability of infection being introduced from without during the operation. Every possible precaution was taken; the operation was done in a careful, painstaking and thorough manner. Very little blood entered the trachea, indeed comparatively little blood was lost during the operation, thanks to the free use of hemostats.

The intra-laryngeal surgical measures, which were necessitated for both diagnostic and palliative measures, doubtless induced necrosis of the tissues, and, as Dr. Davis has suggested, there may have been in consequence a mild septic condition present prior to the operation, which was lit up by the latter procedure.

Just what part the suppurating surfaces around the trachea played it is impossible to tell, but there is some ground for the belief that it was an element in the fatal termination.

#### PRELIMINARY PATHOLOGIC REPORT.

The microscopic examination of the very small specimen received at the laboratory shows it to be a cellular tissue made up chiefly of lymphoid cells and polymorphonuclear leucocytes, together with endothelial cells derived from the lymph and blood vessels. The latter are apparently newly-formed vessels such as are found in granulation tissues. They all show swelling and proliferation of the endothelial lining, in some sufficient to close completely the lumen of the vessel. Around many of the vessels the connective tissue is thick, and, in places, hyaline. On the free surface of the specimen necrosis has occurred, and the tissue is invaded by

numerous bacteria of various types, including bacilli, streptococci and diplococci.

Slides stained for tubercle bacilli fail to show the presence of that organism.

Only a very small clump of epithelial cells is present in the sections and these present no special changes.

Plasma cells and eosinophile cells are fairly numerous, scattered here and there among the other cells.

*Diagnosis.*—The specimen presents the appearance of a new-formed inflammatory tissue (granulation tissue) with superficial necrosis. The cause of the inflammation cannot be determined, but the changes in the vessels, together with the presence of plasma cells, forcibly suggests a syphilitic origin.

A further report will be sent when the examination of the second specimen from the same case is complete.

Later pathologic report. See also report of  $\frac{\text{No. 172}}{\text{P. 60}}$ .

The specimen is a small, irregularly-shaped piece of tissue, 4 to 5 m.m. in its greatest dimension.

*Microscopic Examination.*—Specimen stained with hematoxylin and eosin.

The specimen is composed of stratified squamous epithelium and vascular connective tissue rich in cells. The layers of the epithelium show great variation in width, but are in general thicker than normal. Between the connective tissue papillæ the epithelium projects in places deeply into the underlying tissue. In many of the projections the arrangement of the epithelium in relation to the connective tissue is perfectly normal, a sharp line marking the limits of the neighboring tissues. Elsewhere, however, this sharp demarkation is lacking, and the epithelial cells are found in irregular bands and clumps, more or less infiltrated by small, round cells of the connective tissue by which they are surrounded on all sides. That these displaced epithelial cells are rapidly proliferating is shown by the nuclear figures present in many of them.

Throughout the specimen there is a considerable infiltration by polymorphonuclear leucocytes.

*Diagnosis.*—*Epithelioma* (squamous cell carcinoma).

NOTE.—In specimen  $\frac{\text{No. 172}}{\text{P. 60}}$  from the same case no portion of the epithelial neoplasm was present. Specimen  $\frac{\text{No. 182}}{\text{P. 162}}$  (also from the same case), although suspicious, would not have justified a diagnosis of epithelioma. The case is, therefore, interesting as illustrating the difficulty in obtaining a portion of the tumor proper for examination; it also shows that one negative result does not disprove the presence of a malignant growth.

## PRIMARY CARCINOMA OF LARYNX—REPORT OF A CASE.\*

BY DR. T. H. FARRELL, UTICA, NEW YORK.

This seems in every respect a typical case. It occurs in a man and Gerhardt says it is "three times more common in men than women." It occurred between the ages of fifty and sixty, in which decade Jurasz showed the disease to be most frequent, and it proved to be an "epithelioma," which, according to Jonathan Wright, is "the form most usually observed."

F. K., aet. fifty-four, German, saloon-keeper, a veteran of the civil war, first consulted me April 12, 1899. He is the youngest of ten children, all living and in good health. He had had pain in swallowing for three months and had lost about forty pounds of flesh. Some weeks ago a general practitioner had excised the uvula, believing it to be the source of the dysphagia. Laryngoscopic examination showed a grayish fungus growth confined to the left side and involving the margin of the epiglottis, aryepiglottidean fold, arytenoid cartilage and extending a short distance on the glossoepiglottic fold. True cords not involved; voice unimpaired. No involvement of glands.

April 29th I excised two pieces for examination by the microscope and submitted them to Dr. Moffatt, of Utica and Dr. George Blumer, of the Bender Institute, Albany. Both reported epithelioma. Dr. Blumer writes: "I examined the laryngeal tumor yesterday and found it to be a typical epithelioma, quite cellular, and as far as one can judge from microscopic appearances I should say quite malignant."

On presenting the facts and prognosis to the patient, he said if an operation could be done at home he would submit, but would not go to New York or Philadelphia.

After reading up all the available literature, a great deal of which in regard to the technique of the operation seemed to have been written rather to befog than to enlighten, I undertook the operation in association with Dr. J. D. Jones, a general surgeon, on May 24, 1899.

We began by doing a low tracheotomy and inserting a Gerster's tampon cannula through which the chloroform was administered.

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\* Read before the American Laryngological, Rhinological and Otological Society, June 2, 1900.



Then a longitudinal incision was made extending from the hyoid bone to the third or fourth ring of the trachea in the median line and a transverse incision along the line of the hyoid bone.

A rather free dissection was then made with the idea of freeing the larynx so that a total extirpation could be accomplished if it proved advisable. This was a mistake, as in spite of ligaturing the vessels, the oozing was troublesome, besides it formed a pocket for the subsequent development of cellulitis and suppuration. The oozing was perhaps due in part to the low position of the patient's head.

The thyro-hyoid membrane was now exposed and incised. The neoplasm proved to be confined within the limits previously described. No attempt was made to save any part of the epiglottis, and the removal of the growth was begun from in front, inserting a silk ligature into the epiglottis to facilitate the manipulation. In order to give more room for working we did a thyrotomy, cutting open the larynx along the median line. The growth was separated till its only attachment was to the pharyngeal wall when a ligature was thrown around the pedicle and the growth separated. One of the greatest difficulties in the whole operation was now encountered, viz., the bringing together of the pharyngeal mucous membrane so as to cover the denuded surface. It was here that Dr. Jones' experience in working at the bottom of deep cavities stood us in especially good stead.

The cut edges of the thyroid cartilage were sutured together and the skin flaps brought into place and sutured, except at one point where a catheter inserted in the esophagus was given exit. The Gerster's apparatus was withdrawn and an ordinary tracheotomy tube was inserted. The patient was put to bed, and the foot of the bed elevated. This position was very distressing to the patient and could not be maintained continuously. In fact he often sat up in bed to cough. The day following the operation his temperature rose to  $100\frac{1}{2}^{\circ}$  (pulse 120) after which it remained under  $99\frac{1}{2}^{\circ}$ , most of the time being normal. The pulse varied from 70 to 109. During the first three or four days the respirations were between 30 and 35 per minute, after which they varied between 18 and 28. The secretions from the wound were excessive, requiring frequent change of dressings. Great quantities of muco-pus were raised through the tracheotomy tube, requiring the constant attention of a nurse to keep the tube free. In spite of this care the tube required frequent removal to allow of thorough cleaning. One night during the first week an assistant undertook to do this and re-introduced the tube in front of the trachea to the great distress of the patient and with almost fatal results. To add to our perplexities the patient swallowed his feed-

ing catheter through some carelessness in feeding, and it was not passed till October 24th—five months later—unchanged except for slight discoloration. It produced no bad effects, however, and another catheter was introduced into the esophagus having a very large safety pin near the outer extremity.

Free stimulation was kept up for the first two weeks. About this time the mental anxiety, with loss of sleep, brought on a mild attack of acute mania, which lasted several weeks.

The horizontal incision healed by first intention. A cellulitis in the flap on the left side caused considerable swelling and traction on the stitches in the vertical incision so that they all gave way. Suppuration took place requiring packing under the left flap for some weeks. The stitches in the thyroid cartilage gave way and allowed of the cut edges moving on one another. During this time the right flap became attached to the larynx with inversion of its edge. Eventually this had to be dissected up and the two skin edges drawn together with silver wire. The tracheotomy tube was left out June 9th (sixteenth day) and the opening into the trachea allowed to close. On July 15th (twenty-second day) the catheter was dispensed with and a stomach tube introduced through the mouth at each feeding, which the patient soon learned to manipulate with great dexterity. There was much difficulty in passing the stomach tube until we tried one of Tiemann's, with a taper point and two velvet eyes on the side.

Before the operation the patient's weight had fallen from 212 to 185 pounds. Following the operation it fell to 149 pounds by the end of the first month.

Present condition: The external wound is entirely healed and closed; the larynx is smooth and free from recurrence. The motion of both cords is good, giving a very fair voice. The patient has learned to swallow semi-solid foods, but cannot swallow liquids. I think this is due to the cellulitis producing bands of adhesion restricting the motion of the larynx and preventing it being carried close up under the base of the tongue. The general health is good—his weight now being 175 pounds.

There is a recurrence of the growth in the cervical glands on the left side, which has increased rapidly in size in the last few weeks. It is firmly attached to the larynx and extends back under the sternoclido-mastoid.

The lessons impressed on me by the operation are: (1) the advisability of a preliminary tracheotomy; (2) the comparative harmlessness of a thyrotomy, even in association with other extensive operative procedures; (3) the importance of skilled nursing, and (4) the advantage of the co-operation of a general surgeon.

## REPORT OF A CASE OF TIC DOULOUREAUX.\*

BY F. H. KOYLE, M.D., HORNELLSVILLE, N. Y.

I wish to present a report of a case of *tic douloureux* which seems unique in view of the fact that, although it was apparently due solely to nasal and accessory sinus causes, it proved to have little, if any, relation to these structures.

On June 1, 1897, Miss W., age forty-eight, was referred to me by a prominent local dentist who had made a diagnosis of probable disease of the maxillary antrum.

The history of the case is as follows: Pain first appeared in the right side of the face about fifteen years ago and has been more or less continuous ever since. It has different starting points, sometimes appearing over the right malar eminence, sometimes appearing to the nasal side of the infra-orbital foramen, while at others it starts in the temple. The paroxysms of pain are very frequent, are produced by talking and by mastication, and are of a sharp, stabbing character. Occasionally, on leaving the house for a walk, she has a stabbing pain about the region of the infra-orbital foramen, followed by a copious discharge of a watery fluid from *one or the other side* of the nose. She has had all kinds of medicinal and electrical treatment, including cataphoresis, at the hands of prominent specialists in Boston and Buffalo, but in every case with negative results. She was finally referred to a dentist. In December, 1896, the first bicuspid on the affected side was extracted and was found to have an abscessed root. Six weeks later the second bicuspid was extracted, and four weeks subsequently the canine. Immediate, but temporary, immunity from pain followed each extraction, the longest period of relief following the last operation.

There had never been a purulent discharge from the nose, nor had there been noticeable intra-nasal pain, although there was a constant sensation of fullness about the region of the maxillary antrum. The right cheek is always a little swelled and becomes scarlet with the onset of a paroxysm. The right eyeball is never painful. The patient cannot sleep on her right side, contact with even a soft pillow causing pain. She is very neurotic, so much so that if, even when free from pain, her attention is directed to her complaint, a paroxysm occurs. Her life is one of long daily dread,

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every moment expecting the onset of a paroxysm and the expected usually happens. Any effort at manipulation of the painful areas caused so much distress that I was compelled to desist.

On examination of the nose I found an enormous exostosis of the right side, the crest of which was deeply buried in the inferior turbinate, while its superior surface impinged on the lower border of the middle turbinate. The left side of the nose was found to be normal. On transillumination the right antrum remained dark, the left showing a normal reflex. Assuming that the negative result of the transillumination was due to the presence of something foreign to its integrity, I advised its exploration as well as the removal of the exostosis.

The latter operation was declined, but the former agreed to, whereupon I immediately drilled into the antrum through the canine fossa. To the disappointment of both myself and the dental surgeon, who was present, nothing was found which would seem to bear a causative relation between the facial neuralgia and the antrum. A thorough search with a probe and curette revealed nothing abnormal except a slightly thickened, smooth mucosa.

The result was satisfactory only in so far as it explained the failure of transillumination to light up the right antrum. My only consolation was the reflection that many others have dropped a bucket into a well and failed to draw up pearls, transillumination having served them as it did me.

Unlike the effect of counter-irritation produced by the extraction of the teeth, the exploration was not followed by relief. Neither did it seem to aggravate the existing conditions, the paroxysms continuing to recur with their wonted frequency.

Finding the patient obdurate in declining further operative procedure, I was compelled to speculate on other probable causes of her convulsive tic. Reverting to the history of the case, I was struck with the fact, which I had till then overlooked, that the hydrorrhea had appeared sometimes from the right side of the nose and sometimes from the left. On further inquiry this proved to be the case, the discharge never having come from both sides simultaneously. This appeared so strange, in view of the fact that absolutely nothing abnormal had been found in the left side of the nose, that I felt warranted in suspecting a *reflex neurosis of ocular origin*. I was further led to investigate this as a possible cause from the fact that it was only at the *beginning* of her walk that this phenomenon occurred. Reflecting upon the fact that, under similar circumstances, sneezing frequently occurs as a result of the entrance of strong sunlight into

the eyes, I thought it wise to make an ophthalmic examination. On inquiry I found that glasses had been prescribed by a New York oculist for both distance and near work, but they had not proved satisfactory. Having had some experience in dealing with refractive errors and muscular anomalies, I proceeded to examine my patient's eyes, with the result that a moderate degree of hyperphoria and a considerable degree of esophoria was found, together with compound myopic astigmatism for distance. Glasses were ordered for the last-named condition, as well as for the presbyopia, and a systematic course of muscle training was inaugurated for the development of the weak ocular muscles. For the next seven days, during which I personally conducted the exercises twice a day, there was a marked improvement in the heterophoric condition, as well as an appreciable abatement in the intensity of the neuralgic paroxysms, their frequency, however, remaining undiminished.

During the following month the patient conducted the exercises herself. Her report of continued improvement was then verified by an examination which showed the amount of heterophoria reduced by fifty per cent. Three months later there was found only one-third of the heterophoria revealed at the first examination.

During the eight days following I personally conducted the exercises, at the expiration of which time orthophoria, or absolute muscle balance, was found to obtain both for distance and near tests.

By this time the neuralgic attacks had decreased to such an extent, both in frequency and severity, that instead of the agony of constant anticipation and dread, and the anguish of the pain itself, a paroxysm was now an unlooked-for occurrence and was both infrequent and inconsequent.

Six months later a letter from the patient was received in which she said the pain had entirely disappeared.

At this point permit me to apologize for having introduced the science of ophthalmology, with which, no doubt, very few of you are familiar. But as earnest, scientific men, we cannot afford to ignore any branch of science which brings us nearer to the goal for which we are earnestly striving.

The laryngologist must always be a rhinologist, else he will fail to recognize the origin of hoarseness and various other catarrhal affections of the larynx. The otologist must always bear in mind certain nasal and naso-pharyngeal causes of diseases of the ear. The intimate association of diseases of the nose, throat and ear is such that one must be conversant with all three if he wishes to be successful in the treatment of any one of them. The ophthalmologist, also,

recognizes the fact that his case of phlyctenular ulcer possibly had its origin in the nose, and forthwith refers his patient to the rhinologist.

Why should not we, then, in a difficult case of tic douloureux, after failing to relieve our patient by treatment which certainly seemed to be indicated, refer him to the ophthalmologist for further investigation and treatment? The case which I have presented is surely not an isolated one, for it must undoubtedly be the case that many an ophthalmologist can count among his successfully treated clientele numerous cases of tic douloureux which have failed to secure relief at the hands of either rhinologist or general surgeon.

A recent writer in the *Journal of Nervous Diseases* makes the claim that facial neuralgia is sometimes due to stricture or other diseases of the lachrymal duct. In a recent paper, Sargent Snow, of Syracuse, has found it due to disease of the accessory sinuses. Their results would seem to prove that the pain in their cases was due to the interference of sensory function caused by peripheral irritation.

In my case, as well, peripheral irritation finds expression in the vascular disturbance (flushing) of the right side of the face, nasal hydrorrhea, and pain in the regions supplied by the superior maxillary divisions of the fifth nerve. Since the fifth nerve has two roots, thus resembling a spinal nerve, any irritation transmitted to its posterior root will produce a reflex neuralgic pain due to the resulting alteration of the sensory function.

In the case presented there remains to be shown the relation between the third nerve (motor oculi) and the fifth, which resulted in neuralgic manifestations.

It will be remembered that the iris is under the control of the ciliary ganglion which is the connecting link between the two nerves, the sensory root being derived from the ophthalmic division of the fifth, while the motor root is derived from the third nerve. The sphincter of the iris, being innervated by the third, its contraction, through the motor root of the ciliary ganglion, involves reflexly the sensory root which is derived from the ophthalmic division of the fifth, and which, through its nasal branches, supplies part of the nasal mucous membrane.

The third nerve, also, was chiefly concerned in the heterophoria to which reference has been made. It will thus be seen that the *ciliary ganglion* was the medium through which an irritation, originating in the third nerve, produced a reflex facial neuralgia, or tic douloureux.

199 Main street.



## CEREBRAL ABSCESS FOLLOWING CHRONIC OTITIS MEDIA PURULENTA—OPERATION—RECOVERY.\*

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Aside from the desirability of reporting all operated cases of cerebral abscesses that each may add its share to the existing knowledge of the disease, the case before us possesses some peculiar points which make it of more than ordinary interest. At the request of the patient's family, P. H., single, twenty-five years of age, was seen at his home in an adjoining town, August 16, 1897. The patient and his family were Bohemians, and spoke but very little English; however, the following history was made out:

When a child he had an attack of acute otitis media purulenta, which was followed by an abscess behind the ear, evidence of which still remained in a shrunken cicatrix immediately over the usual site of the antrum. He had been sick in bed two or three weeks, and had a profuse fetid discharge from the ear. The superior and posterior walls of the canal were so greatly prolapsed as to preclude any further inspection of the tissues beyond this point, though the probe gave evidence of a carious condition of the tympanic walls. His pupils were about normal, and equal in size. No information whatever could be obtained from the patient himself, and when questioned, would either grin or laugh and give some answer entirely foreign to the subject. The family stated that he complained at times of pain in the left side of the head, that he had been growing weaker and had no appetite. His pulse was 56 to the minute, and his temperature normal. The diagnosis made was chronic purulent otitis media, and mastoid disease, with probable cerebral abscess.

On the following day he was brought to the Easton Hospital in an ambulance for the purpose of operating. After his admission, another attempt was made to obtain a more complete history, and as one of the attendants spoke the Bohemian language fairly well, this might have been expected to succeed, but the same sardonic grin was his only response to whatever questions were put to him. At this time an attempt was made to examine the fundi of the patient's eyes, which, owing to his mental condition, did not suc-

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ceed; however, after being etherized, and before operating, the attempt succeeded, and a decided optic neuritis of the affected side was made out, which made the diagnosis of cerebral complications still more probable.

At this time there appeared to be no paralysis or paresis of any part of the body, though there was much rigidity of all the voluntary muscles, so that whenever he attempted to move his arms or legs the motion was always slow, and whenever an attendant attempted to move them, the result was always the same.

Before the anesthetic was administered, his hair was removed rather more extensively than is usual in mastoid operations, on account of suspected cerebral complications. The skin over the shaved area was cleansed, the usual incision behind the ear was made and the periosteum was removed in the usual manner. The mastoid was opened with the chisel and mallet, and as is usual in these cases of old mastoid trouble, the bone in the locality of the old abscess was of ivory density, and the pneumatic spaces were almost entirely wanting, and although the mastoid process was almost completely removed, no pus or granulating tissue was found in it. The chiseling was carried forward, enlarging the aditus amply for exploring the attic and tympanic cavity, after which this region was thoroughly curetted and left clean and smooth throughout.

The incision was now extended from a point immediately above the ear, upward about two inches, and at a point about three-fourths of an inch above the bony canal; a three-quarter-inch trephine was used to remove a button of bone from the cranium. There was nothing unusual in the appearance of the dura in this region and it was not opened. A large aspirating needle was now introduced into the brain in various directions for the purpose of locating an abscess, if such existed, and as the needle was introduced inward on a level with the opening, and backward at an angle of about  $45^{\circ}$ , and to a depth of two inches, fluid was found, of a sero-purulent character, containing some stringy, flocculent material and some blood. The aspirated material was not foul smelling. The blood seen in the fluid was probably accidental, as that first aspirated was practically free from a reddish cast. Something more than a half ounce was all that could be obtained, and this was preserved for examination. On the evening of the same day, the specimen was presented to Dr. Kotz, of Easton, for microscopic examination, who reported it to contain pus cells, broken-down brain cells and granular matter, the usual constituents of cerebral abscesses.

After becoming satisfied that there was no more fluid to be obtained, the periosteum and scalp were replaced over the opening, and were secured with silk-worm gut ligatures down to the ear, and the mastoid and tympanum were cleansed, dried and dusted with iodoform, and packed with iodoform gauze, and the whole secured with sterilized gauze, cotton and a roller bandage. After recovering from the ether the patient was quite restless, and his pulse was 130 to the minute, and quite weak. At this time he was given a hypodermic of morphia, soon after which the pulse fell to 110 and much better quality. The night following the operation the patient slept well, but passed his urine and feces involuntarily. He complained of no pain, neither did he make known the fact that he had any want which required attention; and the histories of the daily appearance for the next two weeks were practically duplicates of the first twenty-four hours.

The task of caring for this patient for the next four weeks was no easy one; unless he was tied to his bed he would leave it immediately when left alone. If his hands were left free, he would pull his bandage off, and his urine and stools were passed in bed; nor was it of any use to get him up for this purpose, for quite likely he would return to bed, and immediately pass them there; all of which necessitated his being kept in a room by himself. The matter of feeding the patient for the first two weeks after the operation was equally difficult. Sometimes he would hold his food or medicine in his mouth for an incredible length of time, and on the first favorable opportunity would endeavor to spit it into the face of his attendant. During this time, if a nurse got her fingers too near his mouth he would attempt to bite them; in this, however, he never exactly succeeded.

About this time we were beginning to speculate as to what was to be the outcome of the case mentally, provided he recovered physically; for although his general appearance, his strength and other symptoms were gradually improving, the same could not be said of his mind; for during the first two weeks his mental state remained in about the same condition as before operating, though there was a general improvement. For instance, at about the end of the third week, while dressing the mastoid one day, he complained that it "hurt," and asked where, he replied "in the old country." This, though irrelevant, *was* an improvement.

On the day following the operation, the temperature rose to 102.4°F., and two days later to 103.2°, after which it gradually subsided till the twenty-eighth day when it was 99.5°. On the



twenty-eighth day he was allowed to sit up for the first time, and on the following day his temperature rose to  $104.4^{\circ}$ . Whether the extra exertion was responsible for the rise in temperature, I do not know; however, the rise was not preceded or accompanied by a chill, nausea, vomiting or other disturbance. On the day following this—the thirtieth—the temperature dropped to less than  $101^{\circ}$ , from which it gradually subsided till the thirty-ninth day when it became normal.

With the subsidence of the temperature, after the abrupt rise on the twenty-ninth day, his mind began rapidly to improve, and soon he began to make known his desires to attend to the calls of nature, and also would answer questions in a much more rational manner, which improvement continued until his discharge from the hospital, on the fifty-sixth day, at which time he had entirely recovered his mental faculties, so far as we were able to judge.

The filling in and closing up of the mastoid required about sixteen weeks, at which time he appeared mentally and physically well, and was able to return to his work—that of a blacksmith. I have recently made inquiry of his employer regarding his mental state, and he informs me that his intelligence appears to be as great as before his illness, and I may state here that I now meet him occasionally, more than two and a half years after the operation, and he appears to be in the same condition.

Some of the points worthy of special notice in the case, are: 1. The nature and extent of the involvement of the mental faculties. To all intents and purposes his mind was a perfect blank. He did not realize his most urgent wants, nor was he able to put forth the least effort to relieve them; and after his recovery, there remained a vacancy of five or six weeks, of which time he had not the slightest recollection. 2. Although there was no paralysis or paresis that could be made out, as stated above, there was a semi-rigidity of all the voluntary muscles, which persisted for several weeks after the brain had been relieved of the pressure of the abscess; which latter also points to cerebral irritation. 3. The vice of manner which he exhibited in attempting to injure his attendants during the first few weeks after the operation, finds no place in his natural disposition, for after recovering sufficiently to be about the wards, a more kind or docile patient is seldom seen.

The location of the abscess, as will be seen by the direction of the aspirating needle when evacuating the abscess, was in the temporo-sphenoidal lobe, and from an actual experiment on a cadaver, a needle introduced as above, the point was found opposite to, and quite near, the posterior horn of the lateral ventricle.

It has been a source of regret to the operator, that at the time of operating, an opening into the brain sufficiently large to admit of a thorough exploration of the source of the fluid, was not made, which will always leave some uncertainty as to the exact location of the fluid obtained; whether it was the product of an abscess, and existed as such at the time of the operation, or whether there had been a small abscess in the vicinity of the lateral ventricle, and had ruptured into the ventricle, from whence it was aspirated.

That there was destruction of brain tissue is evident from the positive presence of broken-down brain cells, as found by a competent pathologist; hence an abscess must have existed, either at the time of operating, or a short time previously, and had been evacuated into the lateral ventricle.

The condition of the patient's mind previous to the operation, and for some weeks afterwards, is not common in those suffering from cerebral abscess; and yet in this case there is nothing in the history pointing to any other cause, while from what history is available, an abscess of the brain is exactly what one would expect to find.

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## TREATMENT OF HAY FEVER.

BY SETH SCOTT BISHOP, B.S., M.D., CHICAGO.

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In an article by E. B. Gleason, in the *International Medical Magazine* for August, the results of his experience in treating hay fever in subjects of the uric acid diathesis were very gratifying. He recommends hydrobromic acid on account of its sedative qualities, and nitro-muriatic acid because it is thought to limit the production of uric acid.

During the past three years Gleason has prescribed nitro-muriatic acid in doses of three to five drops of the freshly prepared, concentrated acid after meals, and sometimes at night. This is diluted with half a tumbler of water. After taking this dose the mouth must be rinsed with water and another half tumbler drank. "The relief of all hay fever symptoms is usually sufficient to enable the patient to remain at home and attend to his ordinary business engagements in comparative comfort. During the past three years nitromuriatic acid absolutely failed to afford any relief from the symptoms of hay fever in only one case."

Gleason refers to the writer's use of acids in hay fever as first set forth a number of years ago in several publications of my experiments with acids in hay fever subjects. An editorial in the July number of the *Wisconsin Medical Recorder*, and numerous other journal articles and books, have recommended the acid treatment of hay fever on the lines laid down in my earlier papers on the subject, quoting me as authority for this as the most effective treatment. These writers have overlooked the fact that, notwithstanding the efficacy of the acid treatment, I have repeatedly emphasized the greater value of an eliminative treatment, and this, too, in connection with the details of my experiments with the acids.

It is surprising and inexplicable that many authors, who have adopted and recommended remedies based on the writer's uric-acid theory of hay fever, have chosen the precipitating, or cumulative, treatment with acids instead of the eliminative method, which frees the body from the excess of uric acid instead of storing it up for future suffering.

When the blood is rich in uric acid a dose of acid precipitates the uric acid from the blood, and it is stored up in the more alkaline tissues, such as the liver, spleen, cartilages, joints and fibrous tis-



sues, only to be dissolved out of these structures when the blood becomes alkaline again while the body is inactive during the hours from midnight to morning. In health, about five to eight grains of uric acid are secreted every twenty-four hours, and it is readily soluble in the blood, which is slightly alkaline. If there is increased formation of this acid, no harm results so long as it is properly eliminated and the ratio between it and the urea is not disturbed. But it is evident that, since the administration of acids causes a retention of uric acid in the body, the persistent use of the acid treatment eventually defeats the object of treatment. That is, it causes a retention of the irritant we desire to eliminate. In all his publications on this subject the writer has endeavored to make it plain that the use of the acid treatment was recommended for temporary relief only during an attack, and that at all other times the remedies should be of such a character as to cause the uric acid to be thrown out of the system, principally through the kidneys.

In order to make this clear, it may be permitted to quote a paragraph from the author's work on "Diseases of the Ear, Nose and Throat," 1898, page 250:

A course of salicylate, salicin, lithium, etc., will remove the excess of uric acid. If an alkali is given it is likely to produce uric acidemia and precipitate an attack of the trouble we are endeavoring to prevent. For an attack, then, a dose of acid should be given to free the blood of uric acid; then the salicylate of sodium should be given for two or three days or longer, to sweep it out of the body; but the salicylate should not be given during the attack, for it may aggravate the symptoms. For a fortnight or a month, perhaps longer, preceding the regular season of attacks of nervous catarrh, from two to six grains of the salicylate should be given every day or two, in order to get and keep the quantity of the acid in the body down to the normal amount. The copious use of the stronger lithia waters is advantageous, also. Warner's tablets of effervescing citrate of lithia are excellent, and the same may be said of alkalithia and the effervescent citrate of lithia, soda and potash. The writer now depends mostly upon lithia as a preventive remedy.

It is desirable to have a urinalysis made in all cases of hay fever to determine whether there is an excess of uric acid as compared with urea, and whether a sufficient amount is being excreted or not. While the relative proportion of uric acid to urea in health is 1 to 33, in a hay fever sufferer, a professional man from Tennessee, the proportion was 1 to 25. In another professional man, of Chicago, the ratio is at present 1 to 32, and he is eliminating only two-thirds as much per day of uric acid as he should, showing that the excess is being stored up in his body. This patient was under treatment for hay fever, and I advised him to avoid meats and sweets as much as possible and to take 20 or 30 grains of lithia a day with a generous

amount of water. At the next visit he took me to task for placing him on a vegetable diet, for his family physician, who was treating him for starchy indigestion, had interdicted a vegetable diet and prescribed animal food. He was in much the same predicament as the Phrygian king, Tantalus, in the lower world. "You prohibit food from the animal kingdom, and my family doctor denies me food from the vegetable kingdom," he said. "What am I to do? I will eat whatever I like." He did. He ate all the meat he wanted, and in about a week I received a letter explaining that he did not return to my office for treatment because he was suffering so severely from an attack of rheumatism that he could not turn over in bed without assistance. This might well be termed a uric-acid storm. When the accumulation reached a certain stage, he was overwhelmed with its toxic action.

I will mention briefly my most satisfactory experience after prefacing the remarks with the statement that if abnormalities exist in the nasal cavities, and they are of such a character as to favor attacks of hay fever, these anomalies should be removed.

While I reaffirm all I have said of the value of the acid treatment for temporary relief during attacks of the paroxysms, the most gratifying results have been obtained from the use of lithia. The effervescing tablets, containing 3 or 5 grains, should be taken every morning and night, so that one gets from 15 to 25 grains a day in divided doses.

I may say, though guardedly, for there is danger of hay fever sufferers being over-feeders on an animal diet, if 10 or 15 grains are taken just after a meal, of which butcher's meat constitutes a part, the suffering which is usually consequent upon such a diet can be averted. But such meals should be rare, say once or twice a week. It has often happened that one has indulged in such a meal unaccompanied by the lithia, and soon afterward the symptoms of uric-acid irritation (sneezing, etc.) have begun to develop, and an immediate resort to a large dose of lithia has prevented the impending attack.

It is important that an abundance of pure water be taken every day. Patients will not drink as much water as they are urged to do, so it is best to advise them to drink as near a gallon as possible a day. This dissolves the uric acid out of the alkaline tissues, and in a largely diluted condition carries it out of the body through the kidneys, skin and bowels. If this method of eliminative treatment, so briefly and imperfectly outlined, is faithfully carried out, the most satisfactory results can be confidently expected in all of the uric acid cases.

103 State Street.

## SOME OBSERVATIONS UPON THE COMMON DISEASES OF THE THROAT AND OF THE NASO AND ORO-PHARYNX.

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In order to consider the subject in hand, it is essential that we first turn our attention to the mouth, the principal source of many of the common diseases of the throat and naso and oro-pharynx. The source because of its peculiar function which makes it one of the most vulnerable points in the whole body for the invasion of micro-organisms.

A number of well-known dental pathologists, such as Goadby, of Guy's Hospital, London; Miller, of Berlin; Vignel and Chequet, of France; Podbelleski, of Russia, and our own Sternberg, have isolated forty-two of these micro-organisms. Many of them were found in healthy mouths, which would make it seem that such



bacteria in conditions of health are not injurious. But when we consider that only four per cent of Americans have all of their teeth, we have abundant proof that either the modern mode of living is wrong, or that our foodstuffs are laden with germs which only require the moisture of the mouth for development.

The lactic acid-forming germs are the most destructive organisms found in the oral cavity. They cause caries of the teeth and they precipitate from the saliva a product which rests upon the teeth as tartar and upon the tongue as a brownish-white coating. The coated tongue, whether or not by its appearance indicating this or that disease, is another medium of germ development in the mouth, and although a scavenger itself ought to be religiously cleansed. I have devised a small scraper for this purpose (see illustration) made of main spring steel in the shape of a loop, attached to a Y-shaped metal shaft. This instrument is made by W. J. Ford & Co., of New York.



Passing now from the realm of dentistry to the throat, we find there an area of glandular structure, which, unlike the upper-air passages and the digestive tract, is not covered with ciliated epithelium, and which on account of its position is not so well cleansed by the saliva—two facts which make it most susceptible to disease. This area is known as Waldeyer's ring, and cannot better be described than in the words of Waldeyer himself: "Its position is almost vertical, and beginning at the vault of the naso-pharynx with the pharyngeal or Luschka's tonsil, it extends to the orifice of the Eustachial tubes, where we have a larger aggregate of follicles—the tubal tonsil. Turning downward along the posterior edge of the soft palate and around the posterior pillar, it reaches the faucial tonsil, and across the base of the tongue called the lingual tonsil," or the tonsil of the tongue.

All of these tonsils, especially the faucial, take on true hyperplasia, and are often congenital, although the greatest number are found between the ages of ten and twelve. They are due to rheumatic habit, eruptive diseases, diphtheria, syphilis and the strumous diathesis. The symptoms of this disease are so familiar that they need only passing mention. They are the open mouth, the expressionless face, the coated tongue, the noisy snoring and restless sleep, the defective smell, taste and voice resonance. Usually associated with these tonsils is the Luschka tonsil (adenoids of the vault), with the added symptoms of defective æration of the blood and of middle-ear trouble. There is no question as to the advisability of removing the enlarged tonsils, as the most satisfactory results have been obtained thereby. Also if left each faucial gland has twelve to thirteen lacunæ which become a receptacle for plugs of cholesteatoma that burrow down through the organ and form an incubator for the reception and culture of micrococci.

For a number of years I was at a loss to account for a sore throat with *no objective symptoms*. I used to ascribe the same to rheumatism or to cold; but within the past year or so I have discovered the source in the *unenlarged, diseased and often hidden tonsil*. In this the lacunæ are infected with the addition of some form of vegetable fungus emitting a foul odor.

In examining this condition it is well

*First*—To separate the pillars of the fauces, thus bringing the tonsils into view.

*Second*—To examine the lacunæ for cholesteatoma and mycosis.

*Third*—To mop the faucial area with dry cotton on a probe, which, when there is disease present, will emit a fetid odor, which to the patient is manifested as a bad taste.

The fungus causing this bad taste or odor is very rapid in its growth, and were it not for the food, which scrapes it away during deglutition, it would become very formidable. Even after the night's fasting it is often so abundant that there is little desire for food.

This growth also extends to the pharynx, and in the former is more persistent, due to the fact that it is not molested by the food. In both it forms a thin coating which is partially washed down from the secretions of the nose and can be perceptibly tasted. Often a patient will complain of no other symptom. In more aggravated cases a small, muco-purulent, sweetish, offensive wad will be dislodged in the morning, and in advanced cases erosions are often found in different parts of the vault of the pharynx. It enlarges also the fibrilla of the tongue; I have seen them five-eighths of an inch in length in a patient with extremely foul breath.

The fungus is also found as far forward as the upper molars, and has a close relation there to the tartar of the teeth, another point by way of proof that it is of dental origin; but it has the closest predilection for Waldeyer's ring.

In treating this condition, it is well to first instruct the patient to have all cavities filled and all tartar removed from the teeth, and the interdental spaces separated so that they can be easily cleansed. I then cauterize the tonsils and cleanse the naso and oro-pharynx, teeth and tongue, with alkali washes and with antiseptics, such as peroxide of hydrogen, ichthyol and thyptol-wyeth, being particular to make topical applications to the naso and oro-pharynx with 25 per cent solution of ichthyol, and where there are erosions to remove inspissated mucus. I instruct the patient to be vigilant in the care of the teeth, and how to mop out the fauces with some chlorine solution. As this fungus takes but a very short time to spread over a large surface, it requires the utmost painstaking to eradicate it, and in some cases where it is very chronic it can only be brought under control.

Out of a great number of cases with symptoms like those just described I have chosen one which I consider typical.

Case—Mr. J., aged thirty six, professional man, consulted me for catarrh of the pharynx. This condition had given him more or less trouble for years, and in the morning made him hawk and spit, troubled him very little during the day, except that just before meals there was a bad taste in his mouth. On inspection I noticed the absence of three molar teeth on one side and two on the other; considerable tartar was present on his molars, his tongue was slightly

coated, his tonsils hidden and pharynx covered with a veil of secretion of a slightly yellow transparent nature.

He gave a history of quinsy two years previous. His breath had the peculiar taint so common in this condition. Upon separating the pillars of the fauces I could at first detect no plug of cholesteatoma, but upon using the tampon of dry cotton a very pronounced odor was elicited. Concluding that the tonsil was diseased, with a small cautery I opened it and found within a cheesy mass. I adopted the treatment already described, with marked improvement to his general health. Occasionally I noticed in the treatment of this young man that the odor frequently returned to his breath, but by his own energies he could entirely control it.

In conclusion, I wish to call attention to the following points brought out in this paper:

*First*—That teeth should receive attention from infancy, in order that caries may not invite forty-two different kinds of micro-organisms.

*Second*—That the mouth is the primary cause of many throat troubles, and ought to receive treatment simultaneously with the throat.

*Third*—That there is a quality of mildly offensive breath, which arises from micro-organisms present in the mouth, throat, naso and oro-pharynx.

*Fourth*—That bad taste in the mouth, particularly before meals, suggests infection of the tonsils, naso and oro-pharynx.

*Fifth*—Diseased tonsils, *not necessarily enlarged* and often *hidden*, no longer act as a barrier to disease, but rather as a germ incubator, and the diseased outer surface ought to be removed.

*Sixth*—That the term rheumatic sore throat should be used with less freedom.

*Seventh*—That the vicious habit of a mother tasting her child's food before giving it to the child, should be preached against.

*Eighth*—For the same reason all instruments, drinking utensils, should be carefully cleansed before use.

*Ninth*—That the coating of the tongue, which is often local in origin, should be removed as systematically as the tartar from the teeth.

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## SOCIETY PROCEEDINGS.

### AMERICAN LARYNGOLOGICAL, RHINOLOGICAL AND OTOLOGICAL SOCIETY.

*(Proceedings Continued from Page 232.)*

#### **Subglottic Growths; Report of Cases, with Exhibition of Improved Instruments.**

DR. ROBERT C. MYLES, of New York, made this report. He said that Mackenzie's original idea was to push the tube of his forceps down instead of pulling the cutting blades up. It was almost impossible to pull and push at the same time in a spasmodic larynx, and hence he had had a tube forceps arranged somewhat after the manner of Grant's instrument. The beak could be adjusted in any direction. By pushing with the end of the finger, the cannula is forced down, thus causing the blades of the instrument to close. It only cuts on one side. In cases of benign growths it was especially desirable that no injury should be done to the healthy parts. He suggested the use of this instrument in cases of subglottic papilloma in children. One of the cases reported was that of a man who had consulted him in June, 1898. He stated that some of the growths had been removed on two previous occasions. On examination, he had found both ventricular bands, the cords, subglottic space covered with warty growths. He had had no difficulty in excising and removing them with the tube forceps above the cords, but several unsuccessful attempts had been made to remove the subglottic growths with Mackenzie's forceps. He had eventually succeeded by the use of the forceps just exhibited. Another case was that of a woman who had violent spasm of the larynx when treatment was attempted, even after the free application of a strong solution of cocaine. Finally, after the use of cocaine, morphine and potassium bromide, and with the aid of the same forceps, he had succeeded in removing the growths.

#### DISCUSSION.

Dr. Wendell C. Phillips said he welcomed any instrument which would favor the removal of these growths, as no instrument that he had used in the past had seemed to him altogether satisfactory. Up to this time Schroetter's tube forceps had seemed to him the best instrument.

Dr. Price-Brown, of Toronto, referred to one case in which he had used the galvano-cautery on a subglottic growth. The patient had, in addition, an aneurism of the aorta. The subglottic growth had produced almost complete stenosis. There was also paralysis of the vocal cord. The growth was large, extended much beyond the center, and was of a red color and had a broad base. He first used cocaine very freely, and then instructed the man to continue breathing so as not to contract the opposite vocal cord. He next passed the galvanic electrode onto the growth, singed it deeply, and took out the instruments. This was all that was done at the first sitting. To his surprise this did not produce edema. At intervals of one, two or three days the cauterization was repeated. The man was completely relieved, owing to the destruction of this fibroid growth, and had no return of his trouble up to the time of his death, four months later, from the aneurism. The most important point was to insist upon the patient's breathing constantly so as not to contract the cord during operation.

**The History of a Case of Carcinoma of the Larynx—DR. JOSEPH S. GIBB, Philadelphia.**

This paper appears in this issue of THE LARYNGOSCOPE in full, see page 242.

DISCUSSION.

Dr. George L. Richards, of Fall River, Mass., said that at the meeting of the society at Pittsburg two years ago he had raised the question of the difficulty of making the differential diagnosis between carcinoma and syphilis at times. The case that he had reported at that time had illustrated this difficulty. The man had improved under the use of large doses of iodide of potassium. The fragments removed had been too small for a satisfactory microscopical examination. The patient's life had been prolonged by the tracheotomy. After death the larynx had shown a most extensive involvement by a slowly extending almost dermoid carcinoma. This explained the difficulty of making the diagnosis. Total extirpation had not been attempted because of the involvement of the esophagus. It seemed to him that the operation was not to be thought of unless one could be reasonably sure that the area of carcinomatous tissue was comparatively small, and that the operation was done sufficiently early. If one could not be sure on these points he thought it preferable to do a tracheotomy and make the patient comfortable for the remainder of his days.

Dr. E. L. Van Sant, of Philadelphia, said that he had seen the case reported by Dr. Gibb, and could confirm all that had been said by him concerning it.

Dr. Arthur G. Root, of Albany, thanked the author for his candor in presenting this paper. The few isolated cases reported seemed to show that total extirpation of the larynx could be done and the patient still survive, but a careful review of the literature seems to warrant one in doing a tracheotomy and allowing the patient to get along as comfortably as he could. Where the larynx was put at rest in this manner, the malignant process quieted down, and life was probably as much prolonged as by any other method. There was reason to doubt whether the infection had arisen in the manner suggested. He thought it would have been much better to keep the patient on rectal feeding instead of allowing him to take any fluid by mouth. Personally, he had much faith in washing out the rectum and using large saline injections. In this way a patient could get along very well for several days with absolutely no nourishment by the mouth.

Dr. Wendell C. Phillips said that from his own experience and observation he felt sure that patients would live longer if nothing more than a tracheotomy were done in the advanced cases. He referred to a case (which had been published) in which there was a small growth occupying one-third of the vocal cord. He had thought it to be a simple papilloma, but following his invariable rule to have all growths examined microscopically, the pathologist had reported it to be a carcinoma. At the time of operation there had been no glandular enlargement, so that it was one of the few cases coming to the laryngologist in the primary stage. The man had nearly died of septic pneumonia in spite of careful nursing. He had eventually recovered from the operation and had now survived it a little over three years, with no sign of recurrence. Advanced cases of malignant growths of the larynx should be left alone in the present state of our operative technique. If only tracheotomy were done the patients rarely suffered.

Dr. Norval H. Pierce, of Chicago, said that he had had three cases of carcinoma of the larynx. All had been operated by extirpation of the larynx; all had died within nine days. One important lesson to be learned from the paper was that positive reliance could not always be placed on microscopical examination of parts removed from the surface of growths. For the removal of deeper portions Schroetter had devised a special instrument. He knew of a case of carcinoma occurring in the practice of a colleague, originating on the vocal cord, which had been removed by laryngo-fissure. The region around the carcinoma had been excised. This occurred over a year ago, and the patient was known to have been alive three months ago, with no recurrence. Most of these patients died of



septic pneumonia; the next most frequent cause of death was general sepsis. This is not surprising when it is remembered that the mouth cavity, or the lower portion of the pharynx, was necessarily opened and the infectious secretions from the mouth could not be kept from the wound. The tugging on the trachea was remediable by an improved technique. The cause of the tugging was obscure; it might be due to the weight of the lungs. The technique of laryngo-fissure and extirpation of the larynx is improving, and the mortality diminishing, so that one should not speak too sweepingly concerning the non-advisability of operating.

Dr. R. C. Myles said that he had studied with renewed interest the subject of extirpation in laryngeal operations for many years. The statistics were certainly not very flattering. It should be remembered that life was not worth much to a person afflicted with a malignant tumor of the larynx. In the case he presented before the American Medical Association in Philadelphia, the result had been rather disappointing. When seen a year or more after operation he had been in excellent shape. After a time he had developed vomiting, gastric distress and other evidence of a malignant growth of the pylorus, and had eventually wasted away and died. He believed if the operation on the larynx had been done a few months earlier, this man would have been permanently cured. He would protest unreservedly against these late operations.

Dr. Lewis C. Kline, of Indianapolis, Ind., said that he had been interested in Dr. Myles' case, and was glad to hear the ultimate result. At that time the speaker said he had taken the ground that if he had been the patient he would have preferred to be let alone. He could recall six cases of carcinoma of the larynx. On one occasion a physician had nearly suffocated in his office. He was taken to the hospital and a tracheotomy performed within a few hours. This was intended as an operation preliminary to opening the larynx, but nothing further was done. The patient returned to his home and finally died. In the other cases he had advised against operation, and he believed this was the best plan in such advanced cases.

Dr. Otto Joachim, of New Orleans, said that it was only too true that laryngologists rarely saw the early cases, but he had had an opportunity of seeing such a case in the person of a colleague. There had been no difficulty in this instance in making the diagnosis. The patient had, on his advice, been operated upon, and had made an excellent recovery. The disease had never recurred in this locality, but he had died about two years later from metastasis.

Dr. Gibb, in closing, said that he was sorry to see American surgeons so pessimistic when our German brethren were so enthusiastic

about the operation. He himself did not feel quite so enthusiastic as formerly. Sendziæ had collected 108 cases of total extirpation. In twenty-four the result was perfect; the shortest period without recurrence being three years, and the longest eight years. There were eleven cases of partially good results, *i. e.*, those in which a sufficient time had not elapsed to eliminate the possibility of recurrence. It should be stated, however, that there was a mortality of 72.2%.

He prefers laryngectomy because tracheotomy offers only a brief respite—the disease goes on—laryngectomy to be sure takes desperate chances, but gives the patient a possibility of complete cure; if unsuccessful, terminates the case quickly.

#### **- Suprarenal Extract in the Treatment of Nasal Hydrorrhea.**

DR. BERNARD BERENS, of Philadelphia, Pa., reported this case. Locally the sensitive area on the left middle turbinate had been cauterized and the parts sprayed with benzoïnol and iodine. A four per cent solution of cocaine was given for the patient to use at night, or when the flow was more profuse. On January 9th a fresh solution of suprarenal extract was applied with cotton and allowed to remain ten minutes, and the local and general treatment was discontinued, five-grain tablets of the extract being ordered instead to be taken internally at intervals of three hours. After the third dose the discharge had ceased entirely. The flow stopped in a few days, and the extract was discontinued. The flow having returned in about three weeks, the use of the remedy was resumed, with the result that the discharge ceased, and has not returned since that time. It was possible that the remedy acted on the vaso-motor centers in the medulla. The author took the view advocated by Bosworth, that nasal hydrorrhea is the result of a neurosis of the fifth nerve. The frequent absence of albumin and sugar in the fluid discharged in the cases of hydrorrhea was one point in favor of its not being cerebrospinal fluid; another was the enormous quantity of fluid voided. Moreover, there was no anatomical ground for the establishment of a flow between the sub-arachnoid space and the nasal chambers.

#### DISCUSSION.

Dr. C. P. Linhart, of Columbus, O., said he was reminded of a case seen in a young man. This person had used about one dozen handkerchiefs daily for three months previously, beginning with a severe cold and growing slowly worse. After trying various local applications without benefit, he had made use of a spray of Dobell's solution with a drachm of the suprarenal extract to the ounce. Within three days the discharge had been reduced to such an extent

that only two or three handkerchiefs were used daily. There seemed to be more fluid discharged from the side on which the turbinal was the more swollen. After four or five weeks of this treatment the discharge had ceased. It was expected that it would return during the winter, and it had done so, but had been promptly checked by the same application.

Dr. Sargent F. Snow, of Syracuse, said that he had seen a few of these cases, and they had recovered before the use of the suprarenal extract. He was in accord with the author in his argument that this discharge was not cerebro-spinal fluid. He had no routine treatment for these cases, treating each one according to the special local conditions found. He had had probably ten cases of well-marked hydrorrhea, four very profuse, and they had all recovered by attention to the nasal and ethmoidal drainage.

Dr. M. D. Lederman, of New York, said that in the recent literature on this subject he had found that the character of the discharge had been described more particularly with reference to its action upon the linen handkerchief and the presence of a "reducing" substance.

Dr. Wendell C. Phillips said that he was not altogether clear as to just what was meant by nasal hydrorrhea, but he had had a case which might come under that head. A young society woman had sought his advice because of a troublesome watery nasal discharge. Examination showed all of the tissues waterlogged. He had made the diagnosis of abscess of the septum, and had incised the latter, but no pus had been evacuated—only fluid. Moreover, this treatment had done no good whatever. There was little in her general condition to excite suspicion except the tendency to gout. Finally, in desperation, he had instructed her to use a powder blower containing suprarenal extract. This was used at night and gave prompt relief. After a few days of this treatment she recovered. This method of using the extract seemed to him the most efficient except in those individuals in whom the powder is irritating.

Dr. Lederman said regarding the irritation produced by the powdered suprarenal extract, that he had induced, in a medical friend, by this application, a most profuse and irritating nasal discharge, which had lasted for forty-eight hours, and had been associated with a temperature of 101° F. When administering it internally it should be combined with some stimulant to avoid cardiac depression.

Dr. Myles said he had been using the powder for about three years, and had met with only a few cases exhibiting this irritative action, probably not more than one in twenty or thirty. There were such persons, however, and the effect on them was certainly dread-



ful. He had often thought that the constitutional and local effect of this remedy might be influenced by the individual's suprarenal gland. He usually tested the individual case by applying powdered suprarenal extract with a swab to the turbinal. If it whitened the part quickly the result of such treatment would usually be found satisfactory.

Dr. Berens, in closing, expressed regret that the differential diagnosis had not been brought out more clearly. He had been astonished to learn from the discussion that nasal hydrorrhea is so frequent and that it is such a curable disease. A distinguishing point between a nasal hydrorrhea and a discharge of cerebro-spinal fluid was in the reduction of sugar. The digitalin had been administered in his cases merely to increase the general tone.

#### **Some of the More Common Forms of Defective Speech, with Exhibition of Cases.**

DR. G. HUDSON-MAKUEN, of Philadelphia, read this paper. He defined voice to be "a column of breath set in vibration by its own impact with the vocal bands and re-enforced by its diffusion through the various resonant chambers into the surrounding atmosphere." It was his belief that the persons who stammer do so for the most part because they have not an adequate column of breath properly controlled at the time they desire to speak, and that the trouble in the majority of these cases lies in the respiratory mechanism. The diaphragm is well known to be an important respiratory muscle, and the text-books put it down as an inspiratory muscle. He personally believed that for the purposes of speaking and singing the diaphragm is a purely expiratory muscle. He had endeavored to show that the diaphragm should always be contracted or in a state of tension when the column of air was being used for the formation of voice. He therefore taught his pupils to contract the diaphragm during the emission of vocalized breath.

The speaker here presented a young man who had been coming to his clinic for about two years. When first seen he had been unable to articulate so as to be understood by anyone. When seventeen months old he had suffered from marasmus and he was unable to walk for five years. When first seen at the clinic he was nineteen years old, and he could not speak a single intelligible word. The muscles of his mouth and face were at that time in a state of almost constant tremor. He had been taught to use the organs of articulation in the formation of the various sounds and to control the breath by the proper use of the respiratory muscles, with special emphasis placed upon the use of the diaphragm, as described above; and he was now able to speak quite distinctly, though slowly

and monotonously, and with some effort. He had been taught to use the syllabic method of articulation in order to properly train his muscles. In time he will be able to talk smoothly and easily.

Dr. Makuen said that he had treated children as young as six years. He exhibited three girls who were being trained. He stated that stammering is a disorder of both the muscles and the nerves, but by muscle training the nervous system would also be trained.

### **Dentigenous Cysts of the Superior Maxilla.**

DR. FREDERICK COBB, of Boston, read this paper. He said that in such persons the upper jaw is distended and as hard as bone. The location of the swelling is usually at the side of the nose, and examination of the nostril sometimes shows a bulging of the outer wall of the vestibule outwards and upwards. Sometimes the sinus could be seen running upwards into the swelling. The usual symptoms were slow swelling of the face, without suffering except perhaps a slight pain about the roots of the teeth. On the sound side the transmission of light below the organ is better than on the other side. On inserting a cannula into the tumor a brownish fluid escapes, and if by means of a syringe fluid is injected it escapes around the trocar. After evacuation of the cyst, and its consequent collapse, a sharp bony prominence, representing the roof of the cyst, would become apparent. His own cases had contained no teeth. It was important to determine the condition of the teeth entering the cyst. The bony opening in the cyst should be packed until granulation had become well established. He thought these cysts started in an inflammatory process originating around the diseased teeth, and characterized by excessive secretion. Some of the cases had come to him with a diagnosis of antrum disease. The salient points in the treatment were evacuation of the cyst and careful dental treatment.

### **Cornu Cutaneum Auris.**

DR. JOHN C. LESTER, of Brooklyn, N. Y., read this paper. The case was reported because of the extreme rarity of horny excrescences of the skin. In this case the growth had been attached to the middle and outer portions of the pinna. He had failed to find in dermatological literature any reference to tumors of this nature attached to any portion of the external ear. Such growths were rarely found except on the face and on the penis. The growth in this case was single. They were more common in advanced age, and in males rather than in the opposite sex. The case reported was that of a man, fifty-eight years of age, who, about six months before coming

under observation, had noticed a small pimple on the external border of the left ear. There was no history of traumatism or of constitutional taint. Attached to the upper half of the left ear was a horny excrescence, a little over one and one-quarter inches in length and about one inch in width at its base. Its shape resembled that of a pyramid slightly twisted upon itself, with the apex toward the head. Near the base it was spongy. Almost the entire cartilaginous portion of the ear was practically ossified. The growth unexpectedly came away *en masse* with the hardened matrix of the plaster cast. The hemorrhage was so severe as to necessitate the use of ligatures and the immediate closure of the wound by several sutures. The attachment was cauterized with nitric acid. Recovery was uneventful. The points of interest were, the anatomical location and the history of severe freezing of the auricle, the age and sex of the patient, the severe hemorrhage following removal, the ossification of the auricle and the permanency of the recovery.

**A Report of Three Cases of Ligation of the Internal Jugular for Septic Thrombosis Following Purulent Otitis Media—Recovery.**

DR. E. B. DENCH, of New York, read this paper. He said that the majority of these cases terminate fatally unless relieved by the surgeon. In the past fifteen years the means of recognizing the condition had become better and the technique had also greatly improved. Three cases were reported.

Dr. Wilson said that the first operation of this character that he had assisted the operator had taken four hours and a half to do the operation. He had since that time done the operation himself in one hour and a half.

Dr. Dench replied that in the first case the operation had required between two and a quarter and two and a half hours; the second and third, one and three-quarter hours each.

Dr. Otto Joachim thought the excellent results achieved in the cases reported in the paper were largely owing to the early stage at which the operations had been done.

Dr. Dench was of the opinion that the secret of success was in making early diagnosis and resorting to immediate operation. The history of sinus thrombosis seemed to him about as characteristic as any other condition met with. There were the typical rise and fall of temperature. One should be able to make a positive diagnosis after watching a case for forty-eight hours.

(To be continued.)



## THIRTEENTH INTERNATIONAL MEDICAL CONGRESS.

SECTION OF LARYNGOLOGY AND RHINOLOGY.

*Summary of Proceedings—Sessions of August 3, 1900.*

### **The Anatomic-Pathologic Diagnosis of Cancer of the Larynx—By B. FRÄNKEL (Berlin).**

The microscopic examination of a removed portion of the tumor is of fundamental importance in the diagnosis of cancer. If the result of the examination is negative, a certain conclusion cannot be drawn; on the other hand, where the examination is positive, the diagnosis is certain and the treatment of the case indicated. The only difficulty lies in the fact that the portion removed is ordinarily too small for the purposes of microscopic examination. The specimen should be imbedded in paraffin and cut in serial sections, which should be stained after the method of Van Giesen or with picro-carmin.

The diagnosis is not established by finding epithelial cells in the preparations, although this is suspicious, but by finding collections of epithelial cells in places where normally they are not found. Where the epithelium of the surface penetrates the deeper structures, great circumspection must be exercised in making a diagnosis, in view of the fact that a number of pathologic processes, such as syphilis, may occasion an analogous epithelial hypergenesis. Irregular structure of the epithelium is a characteristic symptom of cancer.

### **Diagnosis of Laryngeal Cancer—By MORITZ SCHMIDT (Frankfort).**

The symptoms of laryngeal cancer, hoarseness, stenosis, odor, etc., are not in themselves characteristic, but are found in many other diseases of the larynx. With the mirror it can be seen that laryngeal cancer takes its origin from different parts of the larynx.

It is to be distinguished, in the great majority of cases, from other tumors in that it retains the original character of a tumor during the whole course of the disease. Some exceptions are to be found in such cases where the disease lies deep in the tissues in the neighborhood of the perichondrium. In this form, a growth of true papillomata upon the surface of the mucous membrane is not infrequently observed. The origin of this form of laryngeal cancer induces a predisposition to perichondritis during its entire development, of the sort which causes the laryngeal picture to be masked.

Cancer of the ventricle of Morgagni often resembles internal perichondritis of the thyroid cartilage.

In two cases the cancer originated from the inferior portion of the posterior wall of the cricoid and showed its presence only by paralysis of the recurrent. One, reported by B. Fränkel, was bilateral, the other, which was observed by the writer, arose from the left side.

The diagnosis, which is sometimes very difficult, even for a practitioner of considerable experience, is to be made between this condition and tuberculosis (two personal cases are reported), syphilis and sarcoma. Inasmuch as the diagnosis of laryngeal cancer is sometimes uncertain, especially among those of limited experience, recourse must be had to other means to aid in the diagnosis, such as anamnesis, examination for traces of the disease, individual or hereditary, antisyphilitic treatment, and excision of a portion for microscopic examination.

#### CONCLUSIONS.

1. Cancer of the larynx presents almost always at the commencement and during the course of the disease the character of a tumor in different forms.

2. Cancer which arises from the deeper tissues of the larynx gives often origin to true papillomata of the surface of the mucous membrane, and often resembles perichondritis in the course of the disease.

3. Cancer of the ventricle of Morgagni presents very frequently the laryngoscopic picture of internal perichondritis.

4. In rare cases the cancer begins in the lower and posterior part of the cricoid and shows its presence only by a paralysis of the recurrent.

5. To exclude syphilis, it is only necessary to give daily doses of three grams of potassium iodide for two weeks.

6. A positive diagnosis can be made by microscopic examination of a piece of the growth. For this purpose the double curette, cutting from above downward, is preferable.

7. A positive result alone is decisive.

#### **Psychic Salivation**—By P. HELLAT (St. Petersburg).

Under the term psychic salivation the author describes an anomaly which has not been described up to the present. The histories of four patients given in detail demonstrate that the basis of this anomaly

represents spitting which is continual and without cause. The patients at first imagine that it is necessary for them to spit, but little by little saliva becomes repugnant to them to such a degree that they can no longer swallow it. The organism always makes efforts to replace the necessary quantity of saliva, whilst the patients take all the pains in the world to eliminate it by expectoration. This abnormal and excessive loss of the secretion, which is indispensable to the organism, and, perhaps, also the increased work of the salivary glands, produce a dryness of the mucous membrane of the mouth, an irritation of the pharynx and of the rhinopharynx, chronic catarrh of the larynx and middle ear. In addition to this there is observed an entire series of general phenomena on the side of the digestive organs and nervous system. Patients are obstipated and inclined to grave neurasthenia of (probably) specific nature, at times approaching mental aberration. The author believes that the matter depends chiefly upon a loss of certain elements of the saliva which are unknown to us, at the present time, but which are necessary to the organism. The duration of psychic salivation or aptyalia is unlimited.

So far as treatment is concerned all expectoration must be forbidden. Directly the saliva follows its natural channel a cure easily follows.

**External Manipulations Applied to Difficult Intubations—By**  
ESCAT (Toulouse).

Two entanglements may occur in the course of intubation in the child.

1. The entanglement of the tube in the intercricothyroid space, the axis of the tube making with that of the laryngo-tracheal canal an angle opened backwards.

2. The entanglement of the tube in the right ventricle or in the left ventricle of the larynx, as a result of a deviation from the median plane, either of the tube or of the laryngo-tracheal canal itself.

In order to combat against these two false paths, I have had recourse, in several instances, to external cervical movements, having for their object the modification of the position of the larynx and to restore the deviated axis of the laryngo-tracheal canal to that of a prolongation of the axis of the tube.

*First maneuver.*—The lower extremity of the tube being well engaged in the vestibule of the larynx and not being susceptible of going further in spite of all the changes of direction of the axis,



the left hand abandons its role of pharyngeal guide and is brought to bear upon the pharyngeal region the thumb, applied in the intercricothyroid space immediately above the cricoid eminence, then exerting a slight pressure whilst the right hand forcibly lowers the handle of the applicator. The object of this maneuver is to reduce as much as possible the angle opened backwards and forwards by the intersection of the axis of the tube and that of the laryngo-tracheal axis. It is therefore applicable to the false intercricothyroid path. If the maneuver succeeds the tube is engaged by means of the weight only of the applicator and the left index need only enter the pharynx to control its position.

*Second maneuver.*—If the above maneuver has not succeeded I have recourse to the following:

The tube being engaged in the laryngeal vestibule and the applicator held well in the median planes by the right hand, the left grasps the larynx between thumb and forefinger and gives it lateral movements which have for their object to modify the orientation of the laryngo-tracheal axis and to place it on a line with the prolongation of that of the tube.

This maneuver is directed against the false ventricular channel either to the right or left.

In four cases of difficult intubation the first maneuver succeeded but once.

The second, after no success with the first, succeeded twice.

In a fourth case the two failed.

My experience is not a large one, but there need be no surprise if there be a thought given to the rarity of really difficult intubations.

The two maneuvers are of a relatively easy execution; in addition they seem to me to be absolutely harmless. I therefore believe that there is reason to try them in all cases of difficult intubation.

#### **Operative Treatment of Rhinoscleroma**—By EMERIC DE NAVRÁIL (Buda-Pesth).

After having made known the peculiar geographical distribution of rhinoscleroma, the author takes up the question in regard to the treatment of this disease. He has had many cases, of which he publishes here but seven reports on patients.

The first case seen in 1885 was the first one in which an exact diagnosis was made in Hungary. This was done by means of clinical observation and histologic examination. He had tried all the treatments recommended, applications, injections, cauterizations, dilatations, etc.

But, based upon his experience and the resemblance of rhinoscleroma to malignant tumors, he arrived at the conclusion that the only efficient treatment is entire removal.

He removes all the diseased tissues, with incisions brought into the healthy parts. Wherever necessary he also makes plastic operations. In order to re-establish the bony skeleton of the nose he takes the anterior plate of the frontal bone. In operating upon rhinoscleroma of the larynx, after preliminary inferior tracheotomy, he performs laryngofission (named thus and performed by him in 1867) to remove the growth.

In those cases in which large portions of the mucous membrane must be removed, he recommends Thiersch's grafts to replace the mucosa, having practiced this method in several cases of papilloma of the larynx. If the neighboring glands are involved by the disease—as Rona and the author have had occasion to observe—they must also be removed. With this radical procedure he has had excellent results in all cases, having never seen any relapses, in spite of the fact that the oldest case dated back from 1895.

Photographs of patients, before and after operation, were presented to the congress.

#### **Pathogeny and Treatment of Laryngeal Paresthesia.—By RICARDO BOTEY (Barcelona).**

This is the second paper which the author has published on this question. In 1894 the author read at the eleventh congress of Rome a communication, in which he demonstrated that these disturbances of peripheral innervation are almost always accompanied by hyperesthesia of the pharynx and of the larynx, less accentuated than the anesthesia of hysterics.

In addition, he also stated in this memoir that there occurred sufficiently frequently in these cases secretory troubles of the mucous membranes, troubles of a transitory nature and not well marked, disappearing after a meal and giving rise to a diminished secretion of the glands of the mucosa which patients interpret by a sensation of dryness at the bottom of the throat, the pharynx being really less moist than in the normal state.

The later experience of the author has led him to believe that this painful sensation of which patients complain is located principally at the epiglottis and arytenoids, despite the fact that this sensation is difficult to locate. Local anesthesia by means of cocaine *increases considerably* the pharyngo-laryngeal paresthesia, a pathognomic characteristic which differentiates it from all local organic or inflammatory causes which can give rise to these sensations.

These facts lead the author to the belief that paresthesia is a result of hyperesthesia and that this diminution of tactile sensibility of the pharyngo-laryngeal mucosa gives rise to special reflex inhibitory reactions in the central portions of the nervous system producing the illusion of an obstacle as a foreign body, obstructing the passage of air and saliva. In addition, there often exists paresis of the thyro and aryepiglottic muscles, for in those instances the epiglottis always appears upright, resting against the base of the tongue.

This incomplete anesthesia seems to be incompatible with a state of active congestion of the arytenoids and of the epiglottis; the color is normal or a little paler than ordinary. If the patient has an acute laryngitis or tonsillitis the paresthesia disappears.

The author cites two very instructive cases of this sort which incline him to the belief that there exists in paresthesia of the larynx a certain amount of relative local anemia which keeps up the morbid process, and that consequently this sensitive perception of the peripheral terminations of the nervous system could be improved and even cured by a hyperemia, by a more considerable afflux of blood over the nervous filaments of the mucosa.

The treatment is thus completely opposite to that which is generally received. Instead of bromides, vaso-dilators and tonics are to be given. Locally, irritating applications with thymolated glycerine and light touches of the epiglottis and arytenoids with the point of the galvano-cautery. By pursuing this course a considerable amelioration of the paresthesia is almost always obtained.

Nevertheless, there are cases in which bromides must be administered internally, the slightly irritating local treatment remaining the same.

The local irritation produces a hyperemia with transudation of serum which acts like a *stimulus* on the more or less blunted general sensibility of the mucous membrane, and it acquires about a normal *tone*, if we have not gone beyond the limits of a very moderate inflammation.

#### **Treatment of Laryngeal Tuberculosis by Intra-Tracheal Injections—By Dr. LOUIS VACHER (Orleans).**

Laryngeal tuberculosis requires a varied treatment, according to the more or less advanced period of the local lesions and the state of the lungs. Having arrived to the ulcerative period, it absolutely requires removal of the vegetating parts, curetting, cauterizations and the application of soothing topical applications, which



alone diminish the pain, make the persistent and hacking cough cease and the dyspnea, dysphagia and vomiting caused by it.

This long, difficult treatment necessitates a certain operative skill as well as perseverance on the part of the patient. There are three principal kinds of lesions observed—infiltrations, vegetations and ulcerations. These last are found about everywhere covered with more or less thickened vegetations. If they are seated in the laryngeal vestibule, the epiglottic folds on the vocal cords, or in the upper part of the trachea, they cause violent pains, a persistent cough, a laryngeal spasm, which ends in vomiting, which prevents the patient from nourishing himself.

It is against these that the principal exertions must be made. It is necessary to curette, to cauterize, to make applications with caustics and various topical remedies. But one part always escapes the contact of the remedy. After having tried a large number of formulas, I had recourse to ether as a vehicle. After spraying cocaine, I first tried intra-laryngeal applications of a saturated solution of iodoform in ether, with which I incorporated, later on, guaiacol, eucalyptol, menthol, etc. I then make intra-tracheal injections, which are generally well borne. The patient immediately experiences a great warmth in the entire thorax, almost no glottic spasm, two or three strong inspirations and quiet is re-established. The breath retains for several hours the odor of the medicine, the pains are lessened, taking food is easier, breathing more ample. Here is my formula: Iodoform, ether to saturation 100, guaiacol 5, eucalyptol 2, menthol 1. I inject progressively up to two cubic centimeters. Improvement is the result of the large quantity of active principles carried by the ether into the trachea and the whole respiratory tree, fortunately modified by the direct contact of the remedy. A larger number of cases and the remote results therein will inform us whether we do not have in this an effective treatment for tuberculosis, and it is for this reason that I have called attention to the advantage of ether as a vehicle to carry remedies directly into the trachea.

#### **Remarks on the Treatment of Tracheal Stenosis—By PIENIAZEK.**

These conditions are most frequently the result of scleroma, very rarely of syphilis; sometimes congenital.

A membrane may be seen obstructing the lumen of the trachea and but a small opening for respiration remains. In all the cases which I have seen, the opening was spanned by a bridge-like membrane.

In these cases I perform tracheotomy above the stenosis. Then, drawing the patient to the edge of the operating table, and with the head hanging down, I examine the patient with a tracheal speculum, tear away the membrane and curette; a tracheotomy tube is then introduced and retained for three days.

**Laryngeal Stricture Treated by Electrolysis in a Patient, the Carrier of a Tracheal Cannula for Sixteen Years; Detubation**  
—By M. BOULAY (Paris) and J. BOULAI (Rennes).

A young man, nineteen years old, tracheotomized at the age of three for a trouble which presented all the signs of a prolonged croup, had never until then been capable of having the tube withdrawn.

He presented a glottic and sub-glottic stricture, leaving but a narrow passage for air, and which neither attempts at rapid dilatation, nor efforts at slow dilatation, nor cauterizations with the galvano-cautery, nor trials at excision with cutting forceps had ever succeeded in modifying.

Repeated seances of intra-laryngeal electrolysis alone brought about, in a few months, a passage large enough to permit of the cannula being removed without any incident, and even with great benefit to the patient, whose general state had been greatly improved.

Electrolysis thus appears to be a valuable means to add to the list of the means of treating laryngeal strictures.

The indications and contra-indications to its use will be pointed out later.

**Primary Tuberculosis of the Larynx**—By Dr. SAMUEL BERNHEIM (Paris).

The author reports a large number of cases from which he concludes:

1. The larynx is sufficiently often, more so than is generally supposed, the seat of primary tuberculosis. This localization is demonstrated by the twenty-nine personal cases which we have observed and in which no other organ but the larynx was primarily attacked. Similar cases have been reported in great numbers by Gouguenheim, Moure, Hilary, Derdano, Heinze, etc.
2. Primary tubercular laryngitis is recognized by particular characteristics which are clearly distinguished from laryngitis of another nature and with which it cannot be confounded. At the very beginning of the affection, there can be seen at the arytenoids

small miliary granulations of a pathognomonic appearance. Later, when these granulations burst, they unite to form irregular ulcerations, often deep or punched out and invading almost the entire organ. The slow progress, the phenomena of loss of nutrition distinguish equally this variety of bacillary laryngitis from that which is clearly inflammatory.

3. This variety of miliary and infiltrating tuberculosis is susceptible of transformation into sclero-vegetating or papillomatous varieties, into a pseudo-polypous type. All these clinical forms may have been recognized by bacteriologic examination and by experiments on animals. A rapid and harmless method of diagnosis is the injection of tuberculine, producing a pathognomonic local reaction.

4. Primary lupus of the larynx is a variety of laryngeal tuberculosis of slow evolution.

5. It is of the greatest importance to establish a diagnosis early, if generalized tuberculosis is to be avoided.

6. Tubercular laryngitis is susceptible of being cured and is often cured. Outside of a moderate local antiseptis the chosen therapeutics is the hygieno-dietetic treatment.

**Indications and Technique of Thyrotomy**—By EUSTASIO URUNUELA (Madrid).

Thyrotomy or laryngo-fissure is of great value

1. For the extraction of a foreign body which cannot be dislodged in the natural way.

2. For the radical extirpation of large benign tumors of the larynx, in which intra-laryngeal removal has been unsuccessful.

3. To avoid the possibilities of extensive traumatism in the larynx.

4. Finally, the principal application of this operation is in the treatment of certain malignant tumors and also for resection of the larynx.

Then, too, we may consider thyrotomy necessary as an exploratory operation in determining the problems of intra-laryngeal surgery.

*(To be continued.)*

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## THIRTEENTH INTERNATIONAL MEDICAL CONGRESS.

### SECTION OF OTOTOLOGY.

#### *Summary of Proceedings—Sessions of August 3, 1900.*

#### **Eulogy on Dr. Charles Delstanche—By Prof. POLITZER.**

Permit me, gentlemen, to speak to you of a man who has been taken but a few months since from our special practice—Charles Delstanche. Every country of Europe deplores the death of some distinguished otologist during the past fifty years with the exception of the United States, which has the pleasure of still retaining her's in their strength. After paying a deserved tribute to all the distinguished otologists of Europe who have paid the last tribute to Nature, the speaker spoke of Charles Delstanche. He was born in Brussels and descended of an old patrician family of that city. His father, Felix, after studying practical otology in Paris, established himself in Brussels and was the first specialist in diseases of the ear in Belgium.

His son Charles was born in Brussels, in 1840, and in 1863 obtained his degree. He devoted his attention especially to otology, more particularly from a practical standpoint. He published many papers in Belgium and foreign medical journals. These are too numerous to mention. His thesis on "Tinnitus Aurium" is a remarkable work on the etiology and symptomatology of these subjective sensations. But that which has chiefly contributed to his great reputation are his different methods of mechanical treatment of ear diseases, especially massage.

In 1887 he founded the first free clinic for the diseases of the ear and nose in Belgium and gave it his attention for twenty-five years.

#### **Acumetry—A Plan for International Notation—By M. SCHIFFERS (Liege).**

The attempts which have been made during several years by clinicians and physiologists to enrich science with a single method of acumetric notation have been numerous; but the problem is complex and of a more delicate solution than that which, for the oculist, consists in measuring visual acuity. This depends upon the fact, in the first place, that there exist lacunæ in our knowledge of the physiology of audition, as sound waves reach the perceptive

apparatus by the ærial and solid media at the same time; in short, because the ear is especially destined to analyse articulate language.

On the other hand, the problem has been complicated by the use of the methods employed to make known the seat of the lesion or of the functional trouble; this is an error which should be abandoned.

It must then be admitted that:

1. The watch and all sorts of acoumeters without gradation cannot serve for a fundamental minima notation; 2. The employment of the tuning-fork is still the best way of measuring the hearing of a subject. The optical method is a very real progress, probably susceptible of later improvements; it is, actually, the most exact means of making a minima acoumetric notation. It is applicable to all cases; 3. The method which consists in having recourse to the tuning-fork by noting the duration of perception has partisans. The tuning-fork employed must then be specified, and the result must be expressed by a fraction whose denominator represents the time of perception of the normal ear, and the numerator that of the ear examined; 4. The test of Weber retains all the value which has been credited to it up to this time; 5. The test, of Rinné, if it be used, must be employed in the following manner: the handle of the tuning-fork should be presented before the otoscopic tube, in order that the comparison between the value of the ærial perception and the solid perception may be exact; 6. Examination by means of articulate language is indispensable, especially in children. The experiments of Wolf must be seriously heeded in its application. Inquiry should be prosecuted to find if there is not a means of giving the voice a uniform tone, which would endow the procedure with the precision it yet lacks.

**Acumetry — A Plan for International Notation —** By ARTHUR HARTMANN (Berlin).

It is proposed, in testing the hearing, first to make a diagnosis of the sort of disease which affects the organ of hearing; secondly, to determine the degree of hearing power in order to judge of the usual faculty and of the effect of treatment upon it.

The only instrument which we possess up to the present to make sound waves appreciable to the organ of hearing by solid and ærial media is the tuning-fork.

During the examination, the duration of perception must be determined, and, when the result is noted, the number of the vibrations of the tuning-fork which is employed must be noted.

The formula to be utilized is as follows: The first number indicates the number of vibrations of the tuning-fork, then follows a fraction whose denominator indicates the perception of the normal ear and the numerator that of the affected ear.

The determination of the perception of words must not be forgotten; for this purpose the whispered voice should be resorted to, and, in the notation, the words employed and the maximum distance at which they may still be heard should be indicated.

**On the Finer Innervation of the Membrana Tympani—By M. JACQUES (Nancy).**

The results which the author has obtained from his researches differ markedly from those of Kessel; it is true that the methods he has used also differ; as a matter of fact, he has utilized the selective action of methylene blue.

There exists upon the external surface of the *lamina propria* a fundamental plexus composed of the nerves which come to the membrane either at its superior pole or at its entire periphery, a plexus whose meshes are stretched according to the division of the vessels; that is to say, in a radial manner.

More superficial bundles are detached, and they run in the cutaneous-corium in all directions and terminate there in complex branching forms and of very great fineness comparable to peripheral sensory terminations.

The ganglionic cells which Kessel has observed have not been met with by the author any more than he has currently found myeline fibers. These characteristics give rise to an analogy between the cornea and the tympanum, which is nevertheless differentiated by the special orientation which the presence of vessels confers on the principal nervous branches.

The author presented drawings which support the views he advances.

**Length of Sound Waves and Number of Vibrations Determined by Means of Kundt's Figures—By M. SCHWENDT (Basel).**

If a resonating tube, such as that of Kundt, for instance, be taken and lycopodium powder introduced in it, this latter, under the influence of sound waves, takes on the form of a wavy line, the prominent parts corresponding to the bellies, the retracted one to the knots.



To determine the length of a wave, the entire line formed in the tube by the waves is measured, and is divided by the number of waves. To obtain the number of vibrations, the number which indicates the rapidity of formation of the sound is divided by the length of the wave.

These calculations are subject to a correction, which takes into account the temperature and diameter of the tubes, when mathematical precision is desired.

The author has thus determined the vibrations of the entire series from *ut*<sup>7</sup> (C) to *fa*<sup>9</sup> (F) of Koenig. His results and those which the latter author has determined by the method of treating agree quite markedly.

In the same manner, the results which he has obtained with the steel cylinders of Koenig correspond with those of the latter experimenter.

M. Schwendt has discovered that his method is also applicable to whistles, and has found that the length of the sound wave is equal to four times the length of the whistle, increased by a constant fraction of the diameter.

He has examined the whistle of Edelmann, a sort of locomotive whistle, and others in addition, and has established particularly that with the same length of whistle and by using weak and strong pressures, alternately, one may obtain at will the fundamental sound and a high harmonic the number of whose vibrations to that of the fundamental sound is as 3 is to 1.

#### **On the Anatomy of Acute Otitis Media—By PANZER (Vienna).**

The pathological lesions which he has observed are the following: The mucosa of the antrum is markedly thickened and infiltrated with round cells; the deepest portion is covered with an enlarged and ramified network of blood vessels and lymphatics. This mucosa sends fungus prolongations into the foramen opening of the antrum, which is partly occupied by an exudate; the epithelium, well preserved in places, has also disappeared in certain other ones.

The tympanic cavity is filled with exudation, the tympanic membrane is convex, and its blood and lymphatic vessels are greatly increased in number. The epithelium of this membrane, preserved at its lower portion, is little by little destroyed at its upper portion. At its external part it is raised, whilst the rest of the membrane is thickened from the infiltration of round cells, which, however, never penetrate into the insima of the tympanum; at the point where perforation takes place, an abundant exudate is found, as also in the space of Prussak.

The exudates which are composed of an agglomeration of mono- and polynuclear leucocytes occupy more particularly the postero-superior part than the lower portion of the tympanum, and finally the region in the radius of the *fenestra ovalis*. The mucosa of the tympanum is also thickened and presents folds; infiltrated with round cells, it is at times covered with epithelium; at other times it is deprived of it. The attic contains a few fungosities, but the bony portion is intact. The incus only presents a small diseased point produced by a loss of substance in which large cells may be seen, under a high power.

Upon the stapes are found voluminous granulations which completely surround it, and between its branches the exudation is found. The other organs of the tympanum share in the inflammatory process, and notably the tendons of the *tensor tympani*. The corda tympani is itself covered with granulations; as to the facial, it is penetrated by the exudate which is infiltrated in the bundles of its fibrous sheath, which explains the ease with which the nerve may be implicated, in the child, in inflammatory lesions of the tympanum.

**Tricophytosis of the External Auditory Meatus**—By L. BAR (Nice).

The external auditory meatus may be invaded by the majority of the dermatomycoses and there are parasitic otitis. The author reports a case of this sort in which the tricophyton of Malmsten was the cause.

Upon this occasion he has endeavored to gather some cases of tricophytic otitis which, on the other hand, are very rare, and describes their characteristics. They are acute, subacute, or chronic inflammations, characterized by a dermatitis which may be very severe, with a vascular and suppurating eruption, or one which is simply erythematous or squamous.

The prognosis is good in all acute cases, varying in regard to the hearing in cases of slow progress.

The diagnosis, which he establishes by microscopic examination alone, should be made in furunculous otitis, otomycosis, impetiginous and squamous eczemas, acnes, erythemas, syphilitic roseola and the syphilides.

Among the parasiticide remedies which may be advantageously employed bichloride solutions 1 to 1000 and naphtholated vaseline 1 to 10 appear the most appropriate.

**Sixteen Cases of So-Called Mastoiditis of Bezold**—By E. J. MOURE (Bordeaux).

The name of mastoiditis of Bezold is certainly improper in the sense that the lesion which Bezold described never exists alone. As a matter of fact, the author, in all the cases in which the mastoid was perforated or was at the stage of being so at the point, has always found lesions of bone necrosis at other points of the mastoid.

In making a detailed examination of the sixteen cases he reports one can easily see that the mastoid perforations of the point were accompanied sometimes by a perforation of the internal table, usually about the sinus, more rarely at the upper portion of the antrum or towards the bony canal, at other times and more exceptionally towards the outside. Even when there exists a purulent infiltration of the neck, the meninges are always bathed in pus and are fungus.

Accordingly, care should be given in the so-called mastoiditis of Bezold, not only to examine for lesions of the digastric groove, but also for other bony changes which have their seat in the mastoid cavity.

So far as treatment is concerned, the author advises the almost complete closing of the wound, leaving a simple drain of medium size; this method of procedure, which singularly hastens cure, has given him excellent results which are absolutely final. The cases which he reports attest to this, the more so as his statistics stop July, 1899; so that the patients whom he considered as cured at this time must certainly be so, as they have not presented any signs of relapse up to the present time.

**Evolution of Non-Operated Cases of Mastoiditis**—By MOLINIÉ (Marseilles).

If acute mastoiditis may be cured in a thorough manner, spontaneously or under the influence of medical treatment, it is only exceptionally so since the author has observed this but fourteen times in seventy-three of his cases.

Once only did spontaneous opening bring on a perfect cure of a simple mastoiditis. Once only did the spontaneous opening of the cervical abscess bring about the cure of a Bezold mastoiditis. Another time, a mastoiditis, after having fistulized itself, cured by skinning over of the tract, and once more, fistulization rendered plastic intervention necessary.



Finally, the fifty-five other cases of mastoiditis not operated and not followed by cures resulted in the following manner: Seven terminated in death, five resulted in cholesteatoma, eleven opened and fistulized themselves. And, finally thirty-two cases passed to a chronic condition and gave rise to the two following forms:

1. *Simple fungus antritis*, in which the lesion is localized to the antrum.

2. *Diffuse latent mastoiditis*. In a few patients an almost absolute calm exists, disturbed in an intermittent manner by sensations of weight and even of pain awakened by cold, overwork, and intercurrent diseases.

This trouble and others may persist for a long time barely marked, and they may even be misunderstood, but they may be the indexes of very grave lesions.

The author concludes that the existence of these lesions in patients considered as cured of their mastoiditis show what caution must be employed in the prognosis of mastoiditis abandoned to its own resources or treated by medical means.

(*To be continued.*)

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## BRITISH MEDICAL ASSOCIATION.\*

*Sixty-Eighth Annual Meeting, Ipswich, July 31, August 1-3, 1900.*

### SECTION OF LARYNGOLOGY AND OTOTOLOGY.

**President's Address**—SCANES SPICER, M.D. Again in 1900 we have a combined Section of Laryngology and Otology, in which arrangement I think the Council of the Association have acted wisely. Except when we meet in the largest centers, or on special occasions like international congresses, it is not easy to secure a sufficiently large attendance to make two sections profitable. Then, nearly all the present generation of specialists in throat, nose and ear diseases practice all divisions, and there can be no doubt that the field of work and the chief questions of interest are the same to us all. Further, it appears to me that the sections of the British Medical Association annual meeting are intended not only for specialists but for the much larger number of practitioners who feel attracted to our subjects, and that we shall more effectually secure the diffusion of knowledge and interest by the consideration of broad questions common to both branches rather than of minute and unsettled problems peculiar to either laryngology or otology, more appropriately dealt with at the special societies and larger congresses.

The rapidity with which the evolution of our specialties has taken place is startling, though if we attempt to realize the vast problems that arise in it, it is not to be wondered at. When we limited ourselves to rule-of-thumb treatment of disorders of the throat and ear, it is not surprising that we were relatively insignificant; but now we have found that special practice in the field of diseases of the upper-air passages has to deal with such problems as the proper growth and evolution of the skull, nose and accessory sinuses, jaws, palate, teeth, chest and spine, the bearing of nasal respiration on catarrhal ear processes and deafness, and the development of the orbit; the physiognomy and expression; and the normal evolution of the mental functions, as well as with the treatment of disease, it is not astonishing that interest and recognition are alike on quite a different scale and widespread.

The nose as the front door, main entrance hall, warming, moistening and filtering mechanism of the respiratory current must

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\* Reprint from *British Medical Journal*.

necessarily take a leading place in the physiology and pathology of the throat and ear, and it is well to remember that the physical conditions of the nasal chambers differ from those of any other part of the body. For here we have chambers whose walls form a rigid box, lined with a highly vascular and nervous membrane through which is forcibly drawn by the act of inspiration about seventeen times per minute during life a current of air, and as the rigid walls of these chambers cannot collapse as in the chest on a fall in the internal air pressure any diminution in air tension can only affect the soft membranous linings of these walls by favoring their distension with blood and lymph by the lessening of the normal pressure on their vascular walls. No doubt the controlling action of the vasomotor nervous system in healthy subjects often wards off for some time the tendency to arterial dilatation; but the suction action on the veins and lymphatics when intranasal air tension is materially lessened must ensue, and after a time, or in weakly subjects or when a dyscrasia is present (such as syphilis, gout or rheumatism) then the result of diminished air tension is further seen in persistent relaxation of membranes and vessels—conditions which imitate congestive, catarrhal and hypertrophic processes. Given, therefore, an obstruction to the passage of the inspiratory current through the nose, its presence will necessarily be followed by a fall of air tension behind the obstruction, and proportional to its degree and situation and the effect of breathing through such a partially stenosed nose, will be dry cupping of the nasal membranes, whereas the tendency on the pneumatic accessory sinuses will be to lower their air tension in the same way as the action of an air pump would do, and so lead to similar changes in their lining membranes with other subsequent results which cannot here be considered. Such is very briefly the line of reasoning which has led me to attribute to nasal stenosis, obstruction or insufficiency such a pre-eminent position as a factor in the etiology of catarrhal throat, nose and ear processes; and this view I find is borne out by clinical experience. Opinions still differ as to the degree of importance and influence nasal insufficiency has in this direction. Some only recognize a fairly complete obstruction, leading to a sensation of stuffiness or blockage, of which the patient complains; whereas others like myself regard as pathological any insufficiency of passage which renders full free nasal respiration by day and night, in all positions of the body, under ordinary circumstances, together with practically equal passage and air tension on both sides of the nose.



In my experience the results of such a minor degree of stenosis may not be at once apparent, but they are none the less real, and the effects may be very slow and insidious in their appearance. Such a degree of stenosis should be attended to not later than the first onset of marked symptoms well known to be the results of nasal obstruction, so as to arrest their further development. Many such cases breathe well through the nose during the day, and may be regarded as having then the physiological minimum of passage; but in change of position at night the horizontal position leads to such a redistribution of fluids in obedience to gravity in the nasal membrane that the passage is encroached on, and mouth breathing with its own special evils ensue.

Further, it would appear reasonable that a slightly obstructed nostril has a more deleterious effect as a cause of chronic catarrhal changes in the nose and ears behind the obstruction than a more completely blocked one, since in the former case there is, from the diminished air tension, a more constant dry cupping of the membrane, and consequently a more liberal blood supply than in the latter; for in such latter subjects mouth breathing is necessarily more frequently, if not exclusively, resorted to; and this habit, though attended with its own bad results on the pharyngeal, and laryngeal, and bronchial mucous membranes, does not so directly injure the membranes of the throat and ear.

Perhaps here I may be allowed to refer to a query which I have often heard raised: "Why, if nasal obstruction is a cause of these catarrhal changes, and the so often resultant deafness, are so many cases of polypus nasi with extreme obstruction not deaf?" To this I would reply that it does not follow that because there is nasal obstruction that the vasomotor nerve control may not be sufficiently strong in some cases to prevent the Eustachian and middle-ear catarrh which is usually secondary to obstruction, but I would rather advance the view that in most cases of large watery polypi the tumors themselves act as centers of counter-irritation, as far as Eustachian catarrh is concerned, by draining the areas to which they are attached, and acting as reservoirs of fluid which collects in the polypi, so that adjacent areas of the nose, naso-pharynx and ear do not become blood-logged and catarrhal. Further, this action is facilitated by the dependent position of polypi, their constricted attachments, and the action of gravity. In support of this view, I would adduce that my experience is that it is in those cases of large watery polypi extensively blocking the nose, yet with small bases of attachment, that aural catarrh and deafness

are less frequent, while on the other hand in those cases of diffuse muco-periostitis and polypoid degeneration (in which obstruction is less extreme), deafness is more common. But of course the influence of reflex aural impulses and also of conveyance of purulent infection will have to be borne in mind as well.

I have been led to conclude that most cases of nasal obstruction originate in an injury, and that when once an injury has even partially flattened the nose, or displaced the septum or cartilages, or initiated muco-periostitic changes in the spongy bones or accessory sinuses, though the results are often inconspicuous at the time, or even for years, it is in such antecedent injury that later nasal affections originate. The effects of such an injury is always to diminish the caliber of the respiratory channel, and that due proportion between the nasal channels and the needs of the organism with which we are born; hence arises the causative stenosis followed by hypertrophic catarrh. Hypertrophic catarrh causes increased obstruction, and so a vicious circle is created, the circumference of which is far-reaching and ever-widening. It is unnecessary to attempt to detail the ways in which the nose gets injured, but it appears desirable to mention how rickets predisposes to injury by the more numerous falls the rickety child has in learning to walk, especially if it commences too early. It is interesting to observe in this connection that nasal obstruction is so rare in quadrupeds, whereas I am not aware that any condition corresponding to adenoids has ever been described. I have been on the lookout for years, but have never seen anything like it. The reflection arises, are obstruction and adenoids among the penalties of our erect posture?

That the results of nasal obstruction are being gradually recognized is evidenced by the fact that it is now no uncommon thing to have cases of obstruction of the most diverse character sent for the adenoid operation in which the post-nasal adenoid hyperplasia element is absent or insignificant. This implies that the symptoms of obstruction as seen in one of its commonest forms are by some erroneously supposed to be due only to adenoids. It is by no means derogating from the claims of William Meyer to our gratitude if I suggest that in most cases of adenoids the post-nasal adenoid hyperplasia is only a part, and often a small part, in the pathological condition of the so-called adenoid child; that fractured and deflected bones and cartilages, turbinal enlargements, hypertrophied tonsils pushing up and growing up behind the soft palate, stunted nostrils, and even vaulted palate are often far more important features in the case at the time of examination than the post-nasal adenoid hyper-

plasia. The failure to recognize this or to act upon it is the cause of the unsatisfactory results which sometimes ensue if the practitioner has undertaken to bring about a cure by simply removing the adenoids. Hence the discredit and suspicion which has often surrounded the question of adenoid operations, and an explanation, at the same time, of the most common factor in a recurrence. I believe the truth to be this: In many children with nasal obstruction no formal adenoid operation need be done with an anesthetic—and its risks are not negligible unless under special circumstances—if the other factors in the obstruction are attended to.

I have no hesitation in estimating that many hundreds of adenoid operations are done unnecessarily in this country every year when adenoids are not present, or if present are only an insignificant element in the obstruction, which depends mainly on other causes. The result of this is a complete absence of relief of the symptoms of obstruction, or only a slight and temporary improvement by the adenoid operation. The question we should put to ourselves is this: Is it the mere presence of the adenoids or the impeded breathing which leads to the arrested evolution evidenced by the so-called "adenoid physiognomy," the alar collapse, the stunted nostrils (persistence of infantile condition), the vaulted palate and crowded teeth, the "drawn" eyes, and the deformed chest? The answer can only be—the impeded respiration. This leads to imperfect use or disuse of the nasal channels, the structures adjacent have not the normal stimulus to growth excited by functional activity, and it is in the use or disuse of structures during growth and evolution that we shall find the master key to explain the normal or arrested evolution of the surrounding organs and structures. Hence child breathing is just as important as child feeding to bring about normal growth and with insufficient supply of air through stenosed nostrils, or improperly-prepared supply through the mouth come lessened vigor and weak breathing in addition to the developmental arrest.

It often happens that an operation for adenoids or nasal obstruction is regarded as the termination of the case, and that it should be unnecessary to take any more special trouble. This idea should be most strongly combated. The operation is only the first step towards the child getting back into the right road. The track being clear it has now to be used and developed. Well-considered developmental and respiratory exercises for the expansion of the chest, and the restoration of respiratory vigor, for the removal of articulation and resonance defects, hearing drill, correction of ocular defects, regulation of vaulted palate and crowded teeth, and numerous other defects



may require careful attention if the child is to catch up his more fortunate companion who has not been hampered by years of obstruction. The operation removes the obstruction, but he has to overcome, often with difficulty, many of the results of the previous deficiency.

In laying such stress on the influence of obstruction in producing hypertrophic or hyperplastic processes, it is not my wish to even apparently ignore other factors in the pathogeny of adenoids such as unresolved catarrhs, specific fevers, syphilis, struma, soil, climate, atmosphere, rickets, feeble breathing and low vitality, but it is my deliberate opinion that while restoring perfect nasal respiration will in many cases, if the child is put under ordinary favorable hygienic conditions, be followed by almost miraculous improvement; all the care and attention directed against the other factors will prove unsatisfactory or fruitless if the nasal obstruction is ignored. Not that all cases of obstruction by any means require a formal operation if taken early. But it is far better to operate too early or for minimal obstruction than too late or not at all; but in order to prevent a long-standing obstruction during growth from imprinting itself indelibly upon the frame and features we must always have in view not only the removal of adenoids, but ensure the complete functional efficiency of the nasal channels as a whole.

In conclusion, I would remind you that prevention is better than cure, and that if in our field of work, as in others, we have knowledge of causative factors of disease, we can in many cases eliminate and prevent them. Just as in general medicine and surgery the highest achievement is the prevention of disease and deformity, so in our special areas of work should we aim at developing the prophylactic aspect of our subject, and in diffusing the knowledge thereof broadcast. In this way, when a morbid process has been originated and detected, it can be corrected at an early stage. In this connection I firmly believe that the greater recognition of the influence of nasal obstruction in its earlier and slighter forms in producing those catarrhal changes which extend to the ear, is destined to play a great part in the future in the prevention and arrest of deafness and other disorders in an early stage. As the constant dropping of water wears away the stone, though imperceptibly, so does the constant action of fall of air tension in a stenosed nostril make its result evident sooner or later. Physical laws are no more suspended in our field of work than in any other. It behooves us to resolutely and firmly apply scientific facts, and to concern ourselves no less with the beginnings of disease and its prevention than with the highest developments of special technique.

**A Discussion on the Indications for the Intranasal Treatment in Diseases of the Ear—P. McBRIDE (Edinburgh).**

The subject before us for discussion may be approached from two points of view, namely, (1) the conditions of the ear liable to be affected by nasal changes; (2) pathological conditions of the nose which may tend to involve the ear. It must be understood that under the term "nose" the naso-pharynx is also included. It almost follows that from adopting this method of dealing with our subject a certain amount of repetition must ensue. I shall, however, endeavor to keep it so far as possible within bounds. It is, I presume, generally admitted that many forms of middle-ear disease may, under certain circumstances, be markedly benefited by treatment directed to the naso-pharynx. Thus previously recurrent attacks of acute otitis media may be made to cease by the removal of adenoids. The same operation may also materially improve certain cases of chronic suppuration, although, as might be expected, the results will be much more uncertain and will depend upon many other factors. In the chronic non-suppurative middle-ear deafness of children, if the case has not gone too far and if there be no complication such as hereditary syphilis, the effects of removing adenoids are often little short of marvelous. In these cases we have a history of repeated colds, each leaving the patient more deaf than before. The drum membranes are usually much indrawn and in advanced cases thickened. Inflation is generally followed by marked improvement, but removal of adenoids may produce great benefit even where the use of Politzer's bag has failed even temporarily to restore the hearing.

So far, I think, we are all agreed, but when we come to chronic non-suppurative inflammation of the middle ear as it commonly occurs in adults the position is by no means so clear. As you are aware, grown-up and even middle-aged persons may suffer from adenoids just as children do; they may have the same train of symptoms, and, in exceptional cases, similar satisfactory results may be attained. There is, however, another, and unfortunately very common form of progressive deafness met with.

The patient comes with the oft-told tale of gradually-increasing hardness of hearing. In advanced cases he hears better in a noisy place, the tuning-fork is well perceived by bone conduction, and tinnitus is a common symptom. The drum membranes may be found somewhat indrawn or they may be normal in position. Again, sometimes there are patches of thickening, but together with these there may exist dark atrophic areas. Finally, with almost the same symptoms and history you may discover either quite normal membranes or there may be a delicate flamingo-red shade, most marked in the posterior part. Occasionally the only abnormality detectable is a slight irregularity in the outline of the malleus. In all these cases there may be a degree of Eustachian obstruction, but again the tubes may be freely pervious. From experience I should be inclined to say that the more marked the changes in the membrane the more likely are we to find the tube narrowed. Again, many of the patients state that they hear worse when they catch cold, and I think that you will most commonly find this connection with nasal catarrh in those who have evidence of thickening and indrawing of the drum membranes.

It is my practice to examine carefully the anterior and posterior nares of all my ear patients, and I have been rather struck by the fact that it is not very common to find what may be termed gross nasal lesions in many of them. At the same time, in the form of progressive middle-ear deafness we are considering, two types are undoubtedly distinguishable, namely:

1. Those in which the anterior and posterior nares are either normal or somewhat anemic, with a very sharp differentiation of parts; that is, the Eustachian tubes standing out with great prominence, but without a trace of swelling or congestion, the outline being sharply defined.

2. Those in which we have some congestion of the whole nasopharyngeal tract, including the Eustachian orifices. We may also find some amount of hypertrophy of the turbinate, a degree of deviation of the septum or spurs; but, as a rule, these conditions are not sufficient to attract the patient's attention to the nose. Of course, I do not for a moment wish to contend that we do not also sometimes encounter very marked nasal conditions causing distinct obstruction—be they hypertrophic, septal or adenoid. I merely desire to suggest that they are not found frequently.

Another rather interesting point is, that while the normal or nearly normal membrane is usually associated with a normal or nearly normal naso-pharynx, the cases in which there is diffuse congestion of



the upper respiratory tract often exhibit evidences of indrawing, thickening and atrophy of the drumhead. Of course you are aware that progressive deafness of one type is now known to be commonly due to changes in the region of the stapes often associated with a lesion of the osseous capsule of the labyrinth, while the other is ascribed to chronic middle-ear catarrh. This, I think, is correct as far as it goes, but whether this chronic catarrhal form can often be cured by intranasal operation is another question. Obviously, if there be a gross lesion leading to nasal symptoms, operative treatment will be indicated on general principles, but from what I have seen of this class of cases—both in those who have come to me at first and those who had been previously treated by others—I am inclined to let this be the test. In other words, I feel disinclined to operate where no obvious nasal symptoms are experienced. In those instances in which the weight of evidence is in favor of ankylosis of the stapes, with or without implication of the labyrinth, it is important to remember that they may be made worse by fatigue, nervous shock, hemorrhage and the like. This is well instanced by the known effect of childbirth on many such cases. It is, therefore, a very open question whether we should not always think once and again before operating under this combination of circumstances, for every operation produces some degree of shock.

I would, therefore, contend (1) that the aurist is now in a position to separate the two classes of cases—to-wit, (*a*) the so-called sclerotic; (*b*) the catarrhal. (2) That in the former it is questionable whether operating on the nose can ever be of benefit, but it may do harm. (3) That in the latter it is better to operate on a gross nasal lesion which is causing nasal symptoms, and upon a naso-pharyngeal condition if it be present—for example, adenoids—for, as we shall see, these may involve the ear without causing other local symptoms.

Of course, I am aware that the sclerotic and catarrhal forms of middle-ear deafness are often mixed, but time does not permit of my going into this interesting point. Here is exactly where experience comes in, and I trust that in the subsequent discussion the various authorities present will add to our information. I have spoken so far from considerations based chiefly on the aural aspects of the subject—if, indeed, such subdivision be justified. Let us now turn to a review of the various changes in the nose and naso-pharynx which are usually believed to be causes of deafness.

Beginning with the conditions capable of diagnosis by anterior rhinoscopy, it must be a somewhat difficult matter for those who believe that nasal obstruction *per se* is capable of producing progres-

sive deafness to account for its rare occurrence in cases of nasal polypus. We all know how seldom such patients complain of gradually increasing hardness of hearing, although, of course, we often find them suffering from slight blocking of the Eustachian tubes. It may be argued that the obstruction has not lasted long enough, but this will hardly hold water, for not uncommonly the victims of nasal polypus allow their trouble to continue for years before endeavoring to have it removed. Again, how frequently do we meet with very marked hypertrophic nasal catarrh, and how frequently does it exist without any marked impairment of hearing. It is very much the same with stenosis of the nostrils due to the septum. It seems to me that if we admit that nasal obstruction may very frequently exist without involving the ear, it almost follows that, in persons who suffer from progressive catarrhal deafness, even if a more or less marked nasal obstruction be also present, we are not entitled to assume the relation of effect and cause between these two conditions. Here, however, the controversialist may ask: How, if we put the nasal factor out of count, are we to explain those cases in which the history distinctly points to repeated head colds as causes of deafness, and how are the cases where rational treatment directed to a nasal catarrh has exerted a beneficial effect upon hearing to be accounted for? I am quite willing to admit the difficulty, but I much question whether any really acceptable explanation is at hand. It appears to me that in certain persons there is a marked inclination to catarrh of the upper respiratory tract, and that in some cases there is a tendency to involve the middle ear while in others this organ escapes. As we are yet somewhat in the dark on this point, it will therefore be well in such instances to remedy any condition which is causing definite discomfort. At the same time I would deprecate the operative removal of small deviations and spurs which cause no symptoms appreciable to the patient.

Turning now to the naso-pharynx, let us consider what information may be derived from posterior rhinoscopy. As we all know, in certain cases of middle-ear catarrh we may find more or less marked diffuse congestion of the naso-pharynx. Obviously this may depend upon the previously suggested general catarrhal tendency, but it may also arise mechanically as a result of obstruction in the anterior nares. It appears to me that in certain doubtful cases the presence or absence of redness about the Eustachian orifices may be a useful indication as to whether or not an operation on the anterior nares be desirable. Thus, if a moderate degree of obstruction exists it is obvious that it may affect the ear either by acting as a focus of

irritation or by causing diminished air pressure in the postnasal space. In either case there will result congestion, and if this be absent I think we may assume that the nasal condition is not the cause of the ear symptoms. With regard to the presence of gross lesions in the naso-pharynx, to some extent the same difficulties encounter us which we have already discussed in considering the anterior nares. Of course, in slowly-increasing sessile tumors we meet with deafness, but I think that those who have had a large experience will agree with me that it is not of the same type as that which we are accustomed to call progressive chronic catarrh. Again, most of us have encountered instances of single pedunculated tumors, and in these deafness is rarely, if ever, in my experience, a pronounced symptom. I do not think that we are at all in a position to explain this fully, but a consideration of what can be observed in studying adenoids as a cause of deafness may throw a little light upon the matter.

I need not enter into the form of deafness which is so frequently met with in adenoid hypertrophy. You are all familiar with it and also know that in this case the relation of cause and effect is usually demonstrable because after the adenoids have been removed the deafness disappears. It is also well known that a very considerable amount of adenoid hypertrophy may exist without causing any impairment of hearing. The question here again arises: Can this apparent anomaly be explained? I am inclined to think that it can. Of course, where the naso-pharyngeal space is filled in its upper part we cannot usually localize the base of the mass with any attempt at exactness. It is different, however, when we meet with examples in which the hypertrophy is of smaller extent. In these cases we meet with two forms of rhinoscopic image. In one we see a mass of tissue occupying the vault of the naso-pharynx, but we can observe that a relatively clear space remains between its margins and the Eustachian orifices. When this state of matters exists, I have, as a rule, found that removal of the mass does not materially influence the ear if it be affected, and, conversely, that it is relatively seldom associated with ear trouble. In the other the adenoid tissue may be very small in amount, but the mirror shows it to reach right across from one Eustachian orifice to the other. Indeed, it almost looks as if the tubal openings were compressed. I have seen a good many examples in which the result of operation showed how a small amount of adenoid tissue so placed may affect the ear. Not uncommonly the patients complain of recurrent attacks of acute middle-ear inflammation, and so long as the adenoids remain these continue to recur



periodically, while after their removal they cease. In other persons chronic middle-ear catarrh is kept up, and this again is usually much benefited by operation. A consideration of these facts will naturally lead us to the conclusion that direct mechanical interference with the Eustachian orifices has a very marked effect in producing deafness, and to some extent probably the converse holds. In other words, where this mechanical effect is absent we often do not find deafness caused, even although there be a considerable amount of adenoid tissue in the center of the naso-pharynx. It is possible that the deafness resulting from pressure on the Eustachian tube may not depend only upon deficient ventilation of the tympanum. It must be remembered that the veins of the middle ear return the blood to a considerable extent by way of the pharynx;\* and that there is a similar connection as to lymphatics.† It is therefore conceivable that interference with circulation may play an important part in certain cases of deafness from adenoids. In some instances the posterior extremities of the inferior turbinates become very much enlarged, and I can conceive that they may lead to deafness by interfering with the Eustachian tubes directly or indirectly, although I have not met with cases in which their removal has given anything approaching the results frequently obtained by means of operating on adenoids.

I have already occupied so much time that I shall not detain you by any reference to non-operative treatment of the nose, interesting and tempting as the subject is. If at this meeting we can formulate the indications for intranasal operation on a scientific basis, the section will not have met in vain.

E. CRESSWELL BABER (Brighton). It may be said, speaking generally, that diseases and abnormalities of the nose (including under this term the nasal cavities and the naso-pharynx) affect the ears chiefly in four ways:

(1) By interfering with the proper ventilation of the tympanic cavity, either from obstruction in the nasal cavities (producing exhaustion of air in the tympanum), from closure of the mouth of the Eustachian tube by secretion or swelling of its walls, or from actual blocking of the tube by a new growth or the pathological enlargement of a normal structure. Obstruction of the nasal cavities also renders the ears more liable to sudden injury from currents of air passing up into the naso-pharynx, such as occurs in violent expiratory efforts, as coughing or sneezing. (2) By catarrh or other inflammatory affections of the nose or naso-

\* Gruber, *Lehrbuch der Ohrenheilkunde*, p. 95.

† *Ibid.*, p. 96.

pharynx spreading along the Eustachian tube. (3) By the actual passage of pathogenic organisms, such as those of tubercle, diphtheria, etc., up the Eustachian tube. (4) By interference with the normal action of the tubal muscles, either from paresis or paralysis of the palatal muscles, or general thickening of the mucous membrane of that part. It behoves us obviously, in order to keep the ears in a healthy state, to prevent as far as possible the occurrence of any of these conditions. This is a very different thing from saying that when the ears are already affected we are always justified in remedying nasal defects with a view of improving the state of the ears, or, at least, preventing it from becoming worse.

As the subject is entirely practical the best plan will, I think, be to take the different diseases of the ears *seriatim* very briefly, stating my own views on the indications for intranasal treatment in order to elicit those of members present.

(1) External Ear: In diseases of the auricle and external auditory meatus there are, as far as I am aware, no indications for intranasal treatment. (2) Middle Ear: Acute inflammation of the middle ear, whether catarrhal or suppurative, requires, as a rule, no intranasal treatment during the attack, except careful cleansing of the nose with a saline solution, indeed any other would be harmful. Exceptions might, however, arise in which obstruction of the Eustachian tube might require immediate intranasal treatment on the lines to be laid down in cases of chronic middle-ear disease. Chronic affections of the middle ear may be divided into non-purulent and purulent. In non-purulent cases, simple means, which it is unnecessary to describe in detail, should be taken to relieve catarrh, and to remove any specific organisms from the nose and naso-pharynx.

In considering the question of operative treatment in the nasal cavities for obstruction produced by deflection, spurs, ridges, enlargement of the turbinated bodies, etc., it must be borne in mind that obstruction in the nasal cavities exerts a pernicious influence on the middle ear in three different ways—by producing exhaustion of the air from the tympanum as already mentioned, by maintaining catarrh of the naso-pharynx, and by the direct irritation of the Eustachian orifices or pressure upon them by means of hypertrophied posterior ends of the turbinated bodies, polypi, etc. To assist in deciding when an operation is indicated on account of the ears it is convenient to divide the cases of chronic non-purulent middle-ear disease into two classes (1) those in which inflation (either by Politzer's method or

the catheter, if necessary a post-nasal one such as I have described),<sup>‡</sup> improves the hearing, (2) those in which repeated inflation has no effect. In the former class the nasal obstruction may usually be relieved with benefit to the hearing power; in the latter operation is not to be recommended for the sake of the ears, although it may be and often is required for other reasons. The most it could do would be to prevent the deafness from increasing. It may sometimes be desirable for this purpose, but this is a difficult point on which to obtain reliable data. Exceptions of course occur, but by following this general rule for some years past I have avoided the disappointment of operating on the nose for the sake of the ears without producing any distinct benefit to the latter.

It is astonishing, as we all know, to what an extent the nasal cavities may be obstructed and yet the impairment of hearing be very slight. In the treatment of the naso-pharynx the same general rule holds good as in the nasal cavities with regard to the removal of obstruction and relief of catarrh; the latter, however, in this instance forms the more prominent feature, and therefore deserves our especial attention. It is hardly necessary to describe the numerous methods of treating catarrh and obstruction of the naso-pharynx. \* \* \* \*

Paresis of the palatal muscles affecting the Eustachian tubes of course requires appropriate treatment with galvanism, etc. In chronic suppurative disease of the middle ear the indications for treatment of the nasal cavities and naso-pharynx are similar, but in these cases the nasal treatment occupies a place secondary to that of the ear itself through the meatus.

Personally I prefer if possible to arrest the purulent discharge from the middle ear before operating on the nose and naso-pharynx. (3) Internal ear: Diseases of the internal ear require intranasal treatment only as far as they are dependent on middle-ear lesions, and to them the previous remarks are applicable. I have found no benefit from intranasal treatment either to auditory vertigo or tinnitus, excepting when these depended on tympanic troubles.

In these few remarks, the point which I wish to emphasize is the importance, from an otological point of view, of ascertaining the effects, in chronic cases, of inflation of the tympanum before any nasal or naso-pharyngeal operations are undertaken; this, not only for the purpose of throwing light on the prognosis of the ear

<sup>‡</sup> Further Remarks on the Self-retaining Palate Hook, including its Use in Post-nasal Catheterism, *British Medical Journal*, June 28, 1890.



trouble after operation, but also for deciding on the necessity for any operation at all.

DUNDAS GRANT (London). That inflammatory or other obstructive conditions in the nose have an injurious effect upon the middle ear is accepted as a fact by all except a very few, among whom I am obliged to include at least one most able practitioner of laryngology and rhinology, who, while expressing himself as most desirous of being able to believe that nasal obstructions can affect the hearing power injuriously, is unable to do so because he cannot find any reason why they should have this effect.

As regards the causal relation between the affections of the nasal passages and disease of the middle ear, it is so constantly before the eyes of the practitioner of otology and rhinology as to seem hardly to call for restatement. Some investigations made by myself at the time of the meeting of the British Medical Association in Glasgow seemed sufficiently definite; a very large proportion of the patients affected with nasal obstruction were at the same time the subjects of catarrh of the middle ear, and inversely out of a number of cases of catarrh of the middle ear a large proportion were affected with nasal obstruction to a very definite degree; the exceptions are sufficiently small in number not to invalidate the rule. One who treats the two organs simultaneously is not often in a position to judge of the effect of nasal treatment alone, but a very striking instance has come before my notice in the case of a gentleman whose singing voice was impaired owing to a congestion of the pharynx and larynx associated with a deviation of the septum blocking up the left nostril. I proposed to him that he should allow me to remove the obstruction, and without further delay I did so; when he saw me again about a fortnight later he expressed his surprise and delight to find that the left ear, which had always been what he considered a deaf one, had improved immensely, and was now almost as good as the other. In this case the condition in the nose was as purely an obstruction as it was possible to find; such a case seems to be absolutely convincing.

As to the question of why a nasal obstruction should have this injurious effect, it has been pointed out that behind any obstruction in the nose there is during inspiration a condition of negative pressure or suction acting upon the liquids in the soft distensible tissues, thereby causing increase of turgescence, both in the posterior part of the nasal cavities, in the naso-pharynx, in the Eustachian tube and tympanum, leading at the same time to indrawing of the membrana tympani itself. It is not difficult to realize

how these conditions may be kept up by continuance of the presence of the nasal obstruction and how their removal may lead to an improvement in the condition of the ear. In well-marked cases, then, there seems to me to be no room for a diversity of opinion, and it will, I think, be admitted that a large number of cases—I do not say all—of catarrhal diseases of the middle ear are favorably influenced by the removal of nasal obstructions. In order to arrive at our proper limitations we must form some estimate as to whether in any given case the degree of nasal obstruction is such as to bring about the changes described in the middle ear. In the next place, how are we to recognize in any given case that the disturbance in the middle ear is of the nature described, and that its cause may be kept up by nasal obstruction? In regard to the first, there is no doubt some necessary proportion between the transverse section of the nasal channels and the amount of air to be drawn into the lungs with each inspiration, but in practice we may be guided by the sensation of the patient, the amount of the visible departure from the normal calibre, and the capacity of the patient for breathing with the mouth shut, so that in reality, if we are too much biased, we may make a very reasonable approach to accuracy in our determination as to whether nasal obstruction is or is not present. It is absurd to suppose that a slight degree of obstruction affecting one nostril can produce any considerable degree of negative pressure.

With regard to the forms of disease of the middle ear attributable to nasal obstruction, they are chiefly characterized by congestion and indrawing of the boundaries of the tympanum, and in especial the various forms of moist catarrh. From these we must carefully distinguish the typical cases of dry catarrh which constitute the opprobria of aural surgery; in these the essence of the disease is a thickening of the tissues and ossification of the tissues surrounding the footplate of the stapes in the fenestra ovalis, which is essentially of an osteo-arthritic nature, and, like chronic osteo-arthritis of other joints, almost inexplicable as regards its etiology. It is necessary to be able to identify this class of case, so that we may not imperil the reputation of oto-rhinology by promising results from the removal of nasal obstructions which, from the nature of things, cannot be attained.

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The most typical cases are those of chronic Eustachian catarrh associated with adenoid vegetations in the naso-pharynx, and the indication admits of no dispute.

There is another class of cases altogether, in which the question of treating a nasal obstruction becomes a very important one.

In the majority of cases any obstruction of the nose sufficient to affect injuriously the organ of hearing produces at the same time other symptoms which, quite apart from the ear disease, indicate its removal, and when such indications are not present it is right to hesitate very seriously before carrying out the operation in the nose. Another serious consideration presents itself with operations in the nose, whether in the nature of cauterly or cutting; though as a rule quite innocent, they are at times followed by suppurative inflammation in the middle ear, and nothing could be more distressing than for this to take place as the result of an operation intended for the cure of a non-suppurative affection of the middle ear. In the writer's opinion the great safeguard against the propagation of inflammation to the middle ear is the avoidance of any form of plugging after nasal operations; for this purpose it is advisable that after the operation the bleeding should be allowed to expend its violence before the patient gets beyond the reach of the surgeon. Again, in view of the possibility that the nasal mucus possesses some bactericidal properties, it is advisable that the smallest amount of mucous membrane possible should be removed compatible with the relief of the obstruction.

To resume: there is a causal association between nasal obstruction and some forms of disease of the middle ear, especially the moist catarrh; but not the typical sclerotic catarrh. In some cases of nerve deafness good results may follow the improvement in nerve tone produced by removal of nasal obstruction. In operations in the nose all precautions should be taken which diminish the possibility of the occurrence of suppurative inflammation of the middle ear. In doubtful cases nasal operations should be avoided, unless there are other indications apart from the affection of the middle ear.

SCANES SPICER (London) said there was in need of some standard of measurement of nasal obstruction: Was it the fact of nasal obstruction *per se*, or did the results depend upon the nature of the obstruction? Was the essential fact the reduction of pressure? Practically, it was important to know what they were to tell their patients. Under what circumstances could improvement in hearing be promised, or even arrest of progressive deafness as the result of intranasal operations? It was important to settle these points.

HEBERT TILLEY (London) said that nasal obstruction alone, however marked, could not be regarded as the factor of greatest importance in the causation of the great majority of cases of deafness. In the recorded cases of complete congenital occlusion of the choanæ



(nine cases in all) deafness was conspicuous by its absence. His own experience was that intranasal operations for the removal of obstruction in cases of so-called "dry catarrh" were almost invariably failures; he could not recall a single success as regarded hearing power, although the patient might feel great benefit otherwise from relief of the nasal obstruction. He had long since given up advising intranasal operations in such cases, and if pressed to operate was careful to explain that the chance of relief to deafness was very remote. On the other hand, in the moister form of aural catarrh which varied from time to time and were associated with moist sounds on auscultation, excellent results might often be obtained by the removal of nasal obstruction due to hypertrophic catarrh, polypi, septal spurs, deflections, etc.

JOBSON HORNE (London) pointed out the importance of age as a factor. In childhood the inferior meatus and Eustachian tube formed practically one continuous channel, and at the same time the nasopharynx was small. Hence the danger of infection of the middle ear. With growth the nasopharynx developed and an increased interval separated the posterior nares and Eustachian tubes, so that there was less danger of infection, and at the same time the effect of nasal obstruction of the ears was diminished. This, he thought, to some extent explained why certain forms of nasal obstruction, such as polypi, which were chiefly found in adults, were comparatively seldom associated with ear disease, in contrast with the frequency with which such disease was found in connection with adenoids, which was essentially a disease of early life. Change to a dry climate was preferable to intranasal treatment after removal of adenoids.

WATSON WILLIAMS (Bristol) said that catarrh rather than nasal obstruction was generally the essential factor causing disease of the middle ear in cases where there was a direct connection between the nasal disease and the aural affection; and though it was true that a certain measure of nasal obstruction would be found in a large proportion of such cases, yet the nasal stenosis *per se* had no causal effect in either setting up or maintaining the catarrhal condition. He had frequently observed that the most obvious and rapid subsidence of Eustachian catarrh had followed the removal of post-nasal adenoids, which either from their relatively small size or from their position were certainly not directly causing nasal obstruction; and on the other hand, cases with most pronounced adenoid hypertrophy had not seldom been free from aural complications. Similarly marked nasal stenosis due to large pedunculated polypi was rarely productive of middle-ear disease, while the diffuse multiple polypi or polypoid

granulations associated with ethmoidal disease and consequent catarrh of the upper air passages were more disposed to aural complications. He was convinced that the effect of "negative pressure," both in the production of nasal catarrh and hypertrophy, and Eustachian catarrh and middle-ear disease, was largely, if not entirely, hypothetical, and that the presence of minor degrees of nasal obstruction were *per se* of little clinical importance from the aural standpoint.

RICHARD LAKE (London) said the point was not what should constitute nasal obstruction, but what forms of ear disease could be relieved by intranasal measures. He believed that almost all cases of chronic dry catarrh were nasal in origin; the question was, what cases would benefit by an obstruction being removed, and what guides had we to aid us? They were, he thought, (1) the duration of air conduction; (2) the mobility of the malleus; (3) the effects of inflation. Short air conduction, immobility of the malleus, and no improvement after inflation left but little hope of aid from intranasal treatment. With reference to such treatment, he thought the most useful work was done in the posterior half of the nose, as in removal of enlarged ends of inferior turbinals, which acted as a direct irritant to the Eustachian tube. In cases of flaccidity of the membrana tympani it was usually found that the nose on that side was stenosed, and it was better to remove the obstruction before treating the ear directly. As to "negative pressure" in the naso-pharynx in cases of nasal obstruction, with all due deference to Dr. Dundas Grant, who had stated that they were all practically agreed on its presence, he wished to say that he was not. He considered that the effects of nasal obstruction were due to the mucus catarrh set up in the naso-pharynx, and that the indrawing of the membrane, etc., should be ascribed in great part to the attempts on the patient's part to clear the naso-pharynx by hawking, thereby constantly sucking the air out of the middle ear without subsequent inflation. Personally, he did not find the tuning-fork tests of any help in these cases.

HOLBROOK CURTIS (New York) objected to the term "negative pressure" as unscientific. One might just as well describe vomiting as "negative swallowing." The general systemic improvement due to the relief of a nasal stenosis and consequent improvement in the quality of the blood had been rather lost sight of in the discussion. Improvement might be due to this rather than to the nasal operation affecting the pharyngeal air supply. His experience had been that quite a large ear practice had come to him as the direct result of intranasal

work without reference to the ear, the improvement in hearing following intranasal operations causing a natural evolution of otological work. This alone would be convincing to him. Sclerotic ear cases demanded less surgical work in the nose, and more instillations of vaseline, etc., in the Eustachian tube. He regretted that the bougie and electrolytic treatment of strictures of the Eustachian tube had not been discussed, for he considered it an important adjunct to treatment.

H. PEGLER (London) thought it was often difficult to draw a distinct line of demarkation between catarrhal and sclerotic cases of middle-ear deafness. Most of them must, he thought, have been agreeably surprised at times by improvement in hearing in cases which had been operated upon for nasal obstruction only. He thought one could not promise improvement, or even arrest of progressive deafness.

SPICER said he thought many of the cases were mixed, and with such no doubt there was some difficulty. What about the cases, say, with obstruction much worse during a cold or at night? Personally, he would not promise improvement if the aural condition had existed over a year. In recent cases he advised nasal operation.

DR. MCBRIDE referred to Dr. Jobson Horne's remarks on the size of the naso-pharynx as a factor. That idea was not in accordance with his experience. With regard to adenoids, the distribution of the tissue was of great importance. A large central cushion on the vault might be quite harmless to the ears, while quite a small amount laterally might compress the tubes and cause deafness. He had frequently observed this and was quite certain of it. With regard to Dr. Holbrook Curtis' views, we must have chapter and verse, precise details of cases tested before and after operation; pious opinions were not sufficient.

CRESSWELL BABER agreed that the adenoid operation was often only the first step in treatment, and on the other hand no doubt cases were sometimes operated on unnecessarily. With regard to the measure of nasal obstruction, he had used Kayser's rhinometer, but it was not very satisfactory. The rule for inflation he suggested for doubtful cases. He would not operate with a view to prevention. If there was negative pressure during inspiration, there must be positive pressure during attempted expiration through the nose. The negative pressure theory was, he thought, rather unsubstantiated.

DUNDAS GRANT differed from Mr. Lake with regard to the tuning-fork. He thought it supplied very valuable data if carefully used. The bulging of the membrane referred to by Mr. Lake suggested the possibility of a perverted action of the tubal muscles causing air to enter the middle ear during the act of swallowing.

*(To be continued.)*



## BOOK REVIEWS.

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**Pulmonary Tuberculosis: Its Modern Prophylaxis and the Treatment in Special Institutions and at Home.**—Alvarenga Prize Essay of the College of Physicians of Philadelphia for the Year 1898, Revised and Enlarged. By S. A. KNOFF, M.D. (Paris and Bellevue, N. Y.), physician to the Lung Department of the New York Throat and Nose Hospital, etc. Descriptions and illustrations of the most important sanatoria of Europe, the United States and Canada. Pp. 343, cloth. P. Blakiston's Son & Co., publishers, Philadelphia. Price, \$3.00.

Our sources of information concerning the sanatoria and resorts for the special treatment of tuberculosis have heretofore been so scattered that if this monograph had accomplished but the one purpose of gathering these valuable data into one volume, it would have been an acceptable contribution to this special literature. Not only has this been admirably done, but the actual merit of the work and the suggestion of the author has earned for it the Alvarenga prize for the year 1898.

In its present form this essay has been revised and enlarged to formidable proportions, and numerous data and personal experiments and sketches of the history of tuberculosis have been added. The most considerable addition to the original essay is the description and illustration of some of the most important sanatoria, special hospitals and homes for the exclusive treatment of consumptives. This volume presents the latest thoughts of the leading European and American hygienists and physicians on prophylaxis and special treatment of pulmonary tuberculosis.

Another feature which is indicative of the best value of this monograph is its practicability. A long experience of the author and his actual personal investigation of the numerous sanatoria and hospitals which he describes gives the book a stamp of originality and makes it a valuable reference volume to the general practitioner and specialist alike.

M. A. G.

**A Manual of Otology.** By GORHAM BACON, A.M., M.D., Professor of Otology in Cornell University Medical College, New York. With an introductory chapter by CLARENCE J. BLAKE, M.D., Professor of Otology in the Harvard Medical School, Boston. In one handsome 12mo. volume of 422 pages, with 114 engravings and 3 colored plates. Cloth, \$2.25, *net*. Lea Brothers & Co., Publishers, Philadelphia and New York.

The necessity of a second edition of this excellent volume bespeaks its popularity. In the revised edition some twenty-five pages of new matter have been added, in which more extended consideration has been given to the Schwartz-Stacke operation and to the use of normal saline solution in intravenous injections. Many new illustrations have been added, and among the more striking additions may be mentioned a plate containing nine colored figures of the drum membrane in health and disease, and another showing the pneumatic cells and tympanic cavity.

In our previous review we have commended this volume to student, practitioner and specialist alike, and desire to again endorse it as one of the best manuals of otology published in America.

M. A. G.

**Transactions of the Sixth International Otological Congress**, London, 1899. Edited by E. CRESSWELL BABER, Honorary Secretary-General, London. The Southern Publishing Co., 62 Fleet Street. 1900.

Hardly twelve months have elapsed since the otologists of the world met on the banks of the Thames, and the complete volume of the Transactions is now in their hands. As many of the papers had to be edited and set up in type in a foreign tongue, and as considerable delay was entailed through the adoption of the admirable plan of submitting them to their authors, we must confess that these transactions have been put through the press with a promptitude which will compare favorably with similar work at many other international gatherings. Mr. Cresswell Baber has added to the indebtedness we already owed him for his management of last year's meeting.

The volume not only contains all the papers read and the discussions held on them, but is also completed by a number of valuable contributions which were presented but could be accepted for publication only. A satisfactory index, both of subjects and authors, completes the book.

We do not pretend to have read through the volume, being already acquainted with most of the contributions, but from having dipped into it freely we are struck with the careful way in which the proofs have been read—a weary and thankless task carried out by Dr. A. J. Hutchison—and the consequent absence of mistakes in the spelling of the foreign contributions.

To those who were not members of the London Congress we can warmly commend this volume—a few copies of which are on sale at a moderate price—as a perfect storehouse of the modern views of the masters of otology.

STCLAIR THOMSON.

**Manuale di Terapia E Medicina Operatoria dell'Orecchio.** (Manual of Treatment and Operations on the Ear). By Professor GHERARDO FERRERI, teacher in the Oto-Laryngological Clinic of the Royal University of Rome. Roma: Società Editrice Dante Alighieri. Price, 7 lire.

This is a practical guide to the treatment of the diseases of the ear. It is not concerned with details either as to the methods of examination or the conditions which may be met with. These, indeed, are much better learned by attending an otological clinic. The technique required for examining the ear satisfactorily is not difficult to acquire, and to those who have mastered it the handbook under consideration will prove most useful. It has done for diseases of the ear what Lermoyez has already done for nasal affections by his work entitled "*Thérapeutique des Maladies des Fosses Nasales*." Our only regret is that Italian is not a better known language, for then this excellent manual by our Roman collaborator would secure the wider audience which it merits.

STCLAIR THOMSON.

**American Year Book of Medicine and Surgery, 1900 (Surgery).** Edited by GEO. M. GOULD, M.D., with the co-operation of prominent American and foreign authors. Imperial octavo, 560 pages; cloth, \$3.00 net; half morocco, \$3.75. W. B. Saunders, Publisher, Philadelphia. 1900.

In the surgery volume of the 1900 "American Year Book of Medicine and Surgery" are a series of chapters on otology, rhinology and laryngology which may be of special interest to our readers.

The section on otology, edited by C. H. Burnett, M.D., of Philadelphia, contains a brief record of recent activity in this field of medicine and references to reports of interesting cases during the past season. It may be worthy of remark that the author of this section fails to refer to a single one of the many original communications on otology published in *THE LARYNGOSCOPE*, and as many of the most important American papers in this field have been published exclusively in this journal, this digest of otology must be considered far from complete.

The chapter on diseases of the nose and throat, as edited by E. Fletcher Ingalls, M.D., and H. G. Ohls, M.D., of Chicago, is a very succinct and interesting report of recent laryngological progress. An additional feature of value in the preparation of this chapter is the introduction of a series of interesting illustrations of important cases and new instruments. It is the best short report of progress in laryngology which has as yet come to our notice.

M. A. G.

**Progressive Medicine**, a quarterly digest of advances, discoveries and improvements in the medical and surgical sciences, edited by HOBART AMORY HARE, M.D., assisted by CHAS. ADAMS HOLDER, M.D., with a staff of collaborators. Volume iii, September, 1900, octavo, cloth, 408 pages; price, \$2.00. Lea Bros., publishers, Philadelphia.

In the section on diseases of the thorax and its viscera there are several chapters which contain points of special interest to our readers and which will be reviewed in greater detail in our abstract department.

**Glaucoma: Its Symptoms, Varieties, Pathology and Treatment.** ALEX. W. STIRLING, M.D., C.M. (Edin.); D. P. H. (Lond). Atlanta, Ga. Jones H. Parker, publisher, St. Louis.

This work gives a most thorough and complete summary of practically all that is known of glaucoma (up to the time of its publication) and is a most valuable reference volume to every ophthalmologist's library. The chapter on the condition of the vortex veins and choroid shows especial study and research.

M. W.



# THE LARYNGOSCOPE.

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## ORIGINAL COMMUNICATIONS.

(Original communications are received with the understanding  
that they are contributed exclusively to THE LARYNGOSCOPE.)

### PRESIDENT'S ADDRESS.—AMERICAN LARYNGOLOGICAL, RHINOLOGICAL AND OTOLOGICAL SOCIETY.\*

BY D. BRADEN KYLE, M.D., PHILADELPHIA.

*Gentlemen of the American Laryngological, Rhinological and  
Otological Society:—*

In this progressive age the investigating mind of scientific workers has necessarily increased the fields of observation. Methods of investigation have undergone transformation. Conclusions and generalizations are founded on facts and definite lines of thought. It is this stimulus for investigation that in order to become highly proficient necessitates close application to one subject. With the increasing knowledge in medical sciences there comes a necessity of more subdivisions and classifications, although specialism is in nowise a modern innovation in medicine. In the days of Hippocrates and Galen it is written: "And they had physicians for the heart, for the lungs, for the entrails, for the stomach and for various parts of the human body."

Specialism is looked upon by many as a *one line* in medicine, not even a *double track*, while quite the contrary is true. The specialist must not only have a thorough knowledge, in fact an exact knowledge, of his subject, and in order to have that knowledge he must have a thorough knowledge of general medicine.

Why is it that the specialist is often considered narrow? Because often he is allowed only to treat the local spot, and the correction of the general health of the patient is left to the general practitioner, when in seven out of ten cases the local spot is dependent upon some systemic condition.

\* Read before the sixth annual meeting of the American Laryngological, Rhinological and Otological Society, Philadelphia, May 31, 1900.

Specialism should not mean the treating of only a part of the body. While the specialist apparently limits his field of work to certain parts, yet the disease manifested in such parts is not necessarily local, and may be only a local manifestation of a systemic condition; then the specialist who does not take into consideration the general condition of his patient to determine its possible effect on a local lesion is not worthy of the name—specialist. He is a *local* doctor.

In medicine the true purpose of all research for knowledge is the preservation and prolongation of life. The increased interest taken in the study of the natural and physical sciences has had a most valuable indirect influence upon the medical profession.

The tendency of the medical sciences has been upward. It must necessarily be, for, like everything in nature, when growth ceases it begins to die. The nearer we get to nature the more scientific we become. The same laws of chemistry apply equally to the clay and to the brain. Specialism has made most rapid progress within the last decade.

In order to bring about the highest perfection in medical sciences it requires individual efforts of individuals and the united efforts of all. "He who thinks he can do without the world deceives himself; but he who thinks the world cannot do without him is still more in error."

Scientific medicine will always stand against any *ism*, *pathy* or *faith cure*.

Investigation must and will go on. "The discovery of truth by slow progressive meditation, is talent; intuition of the truth, not preceded by perceptible meditation, is genius." "Some never think what they say; others never say what they think." "Convictions which remain silent are never sincere nor profound." "Modesty is sometimes an exalted pride." "To judge the real importance of an individual one should think of the effect his death would produce."

The medical profession must necessarily be opinionated; though not necessarily self-opinionated as individual members. If such were not the case we would be compelled to accept new dogmas for more established fact, or we would be considered non-progressive.

Radicalism and conservatism are necessary to any great reform. Both are necessary in medicine, and yet a very good maxim, with which many of us are familiar, is:

Be not the first by whom the new is tried;  
Nor yet the last to lay the old aside.

In politics I suppose such a person would be called a "middle-of-the-road" man, but it is a good policy to pursue in medicine.

It is pleasing to note that within the last few years more and more attention is being given to the study of general conditions with local manifestations. If the specialist is not thoroughly versed in every branch of medicine, his field of investigation will be limited, and the otologist will consider every reflex disturbance of the ear, the rhinologist the reflex disturbance of the nose, and the laryngologist the reflex disturbance of the larynx, responsible for many ailments.

Our specialty also demands, besides this general knowledge of medicine, an intimate knowledge of associated and adjacent structures. How many catarrhal conditions of the pharynx and larynx are dependent upon and caused by a similar condition in the esophagus or stomach?

We must not deal with the throat, nose and ear in a mechanical way, as if they were detached organs, but must take into general consideration the condition of the individual. This then involves a thorough knowledge of physiology, pathology and applied therapeutics.

One-sideism in medicine is not limited to the specialist. While it may be *more marked* in that line, yet we do have the specialist crank in the general practitioner's ranks. For example, some general practitioners want to explain all our ailments from the uric acid standpoint, while others believe that auto-infection from the intestinal tract is the primary cause of all our diseases: yet it is the fanatic who starts great reforms.

Geographical pathology plays an important part in medicine and the meteorological conditions influencing epidemics is unquestionable.

The day of chemical anatomy and chemical pathology is not far distant. It is the chemistry of the secretions and the chemistry of the blood which control in a great measure the action and reaction of drugs. It is a well-known fact that in the various forms of degeneration it is the chemistry, physiological or pathological, which controls and determines the variety of degeneration. On no other basis can we explain why in one case of typhoid fever we have Zenker's hyaline degeneration of muscle and in another case we have fatty degeneration. So important do I consider the subject of chemical pathology, of which comparatively little is now known, that ere long I believe it will take as important a place in medical teaching as pathological anatomy and histology.

The United States offers more advantage for medical education than any other country on the globe. With a population of about 70,000,000, we have 106 medical schools, with different regulations



in each state. Canada, with a population of about 5,000,000, has 11 medical schools. Spain, with a population of 17,000,000, has 3 medical schools. Italy, with a population of 29,000,000, has 17 universities. Great Britain, with a population of 38,000,000, has 19 medical schools, 10 of which, namely the universities confer the degree of doctor. Belgium, with a population of over 5,000,000, has 4 medical schools. France, with a population of 36,000,000, has 6 academies conferring degrees and 16 preparatory medical schools. Denmark, with a population of nearly 2,000,000, has 1 medical school. The same is true of Norway, with her population of nearly 2,000,000. Sweden, with a population of 4,000,000, has 2 universities and 1 academy with power to confer the degree of doctor of medicine. Russia, with a population of 85,000,000, has 8 medical schools. The Austro-Hungarian empire, with a population of 36,000,000, has 6 medical schools. The German empire, with a population of 41,000,000, has 23 medical schools. Many of the foreign countries require an academic degree before registration in the medical school. It is to be hoped that in time to come we will reach that degree of education in this country, but with our vast territories the day has not arrived in which we can demand that in all our medical schools, otherwise we would deprive many talented and able men the privilege of studying medicine. It is not always the man with the most titles after his name who is the most competent and successful practitioner.

It falls to the duty of the specialist to deal with the after-effects of that troublesome disease epidemic la grippe. During the past winter I saw many of these cases with their peculiar symptoms which excited my attention. The peculiar infiltration of the mucous membrane, which resisted all efforts of local treatment, lead me to believe that during the attack inflammatory exudate which occurred during the acute symptoms of the disease differed chemically from ordinary inflammatory exudate.

While epidemic influenza, or la grippe, may not strictly be classed as an infectious or contagious disease, yet my observations convince me that there is as distinctive a pathological alteration of structure such as characterizes diphtheria, scarlet fever or any of the contagious diseases. These alterations vary somewhat, it is true; in fact, they are controlled largely by the age and general condition of the individual; also whether there has been any pre-existing disease of the structure or whether the membrane was practically normal prior to the attack. This latter is an important factor, although age does not seem to exert much influence other than the general condition of the individual would, as in old age or in the young.

As you are aware, numerous bacteria, I believe in all some twenty-eight, have been described as the exciting etiological factor of la grippe. Pfeiffer's bacillus seems generally accepted, and many writers consider its identity sufficiently established as to warrant its classification as the true etiological factor. Be this as it may, it has a curious way of affecting and penetrating certain tissues, cavities and locations of the mucous membrane which is peculiar to itself.

Quite often we find after an attack of influenza, although the patient made a good recovery, that he complains of a thickening of his mucous membrane. His own impression is that it "feels thick," and, on examination, that is exactly what you find. It is not an edematous swelling, but it seems tough and infiltrated and lacks the luster and life of a normal mucous membrane. From examination of microscopic sections of this tissue, I believe that during the inflammatory attack there exudes into the peri-vascular tissue a peculiar albuminous material not unlike that which occurs in amyloid disease, and that this material is manufactured in the blood owing to some chemical change brought about by the toxins of the bacteria, and that this material is deposited in the tissue as an infiltrate. Treatment would bear out this fact, as in the majority of cases alteratives are productive of the best results.

A review of the literature of diseases of the nose, throat and ear shows that while not a great deal that is new has been brought forward much that is interesting has been published.

Schadle, Holmes and Cryer have added much to our knowledge on the subject of accessory cavities and their relation to the nasal and post-nasal spaces.

From an etiological standpoint the bacteriological examinations of secretions from sinus lesions still give rather uncertain data, various bacteria being found present. Friedländer's pneumococcus, the bacillus of diphtheria, the diplococcus lanceolatus and various staphylococci seem to be associated germs. The important relations of the epidemics of la grippe to accessory sinus lesions cannot be questioned. Pfeiffer's bacillus, which is accepted by some as the etiological factor, surely must have a predilection for the accessory cavities, for, with wonderful rapidity the frontal sinuses, the ethmoid cells, and, in many cases, the antrum, are involved; also the Eustachian tube and middle ear; indeed, mastoiditis develops in many cases.

Transillumination of the various accessory sinuses is of the greatest importance, and in this line during the past year a great deal has been written. It is demonstrated that transillumination is

not a positive means of diagnosis in all cases. Irregularities in size of accessory cavities, inequality in thickness of the bony walls surrounding these cavities is the important factor in the failure of transillumination.

Gerber's double diaphanoscope for illuminating the frontal sinus promises to be a valuable aid in diagnosis.

The demonstration of the important relation of medicine to dentistry, which is being shown by a number of scientific articles, is a long-neglected field. The relation of the facial contour and the upper arch to nasal breathing in early childhood cannot be overestimated; in fact, it is the nasal breathing which controls the regular development of the facial bones and especially the superior maxilla. A thin alveolar process of the upper jaw from lesions of the teeth may cause by extension of inflammation, by continuity of structure, lesions of the floor of the nose or of the antrum, or, on the other hand, deflections of the septum or spurs situated close to the floor of the nose, by the inflammatory action set up in the surrounding structure may bring about inflammation and diseased conditions of the teeth in the direct line of obstruction. The stomatologist should not only have a thorough knowledge of the nasal cavities and accessory sinuses, but also of general medicine, and indeed, the general practitioner or specialist should have a more thorough knowledge of stomatology.

The diseases of the lateral sinuses are all recognized much more readily and surgical procedures instituted.

Mosetig-Moorhof gives an interesting method of closure of the mastoid cavity in cases in which there has been great loss of bony structure by means of a skin flap.

Ballance also gives an interesting report of closure of the mastoid cavity by means of epithelial grafts.

Mastoiditis in the new-born is described by Bezold and is known as Bezold's mastoiditis.

Bacteriological investigation has been largely confirmatory, nothing new of importance being recorded, and the fact remains that virulency of germs within the nasal cavities is controlled the same as elsewhere, dependent upon the increased secretion and the resistance upon the part of the individual. My own investigations, which included some five hundred laboratory examinations, while in direct opposition to the findings of Thomson and Hewlett, or Würtz and Lermoyez, are confirmatory of Park's and Wright's investigations, and show that no positive deduction can be made in regard to the relation to disease of bacteria found within the nasal passages.



The immediate relation of the streptococci with various other bacteria, showing the increased virulence owing to its presence, has been demonstrated. This is so well demonstrated and so clearly proven that we now speak of a streptococcal infection, in which a membrane is formed in the throat, and which is not diphtheritic. The local treatment of this condition should be the same as that in diphtheria, nothing being better than Löffler's solution applied twice daily.

Each year new diseases and new classifications are brought forth: for example, Todd has seen fit to apply to the excoriation about the nasal orifice in diphtheria and scarlet fever the term "vestibular" or "anterior rhinitis." The name itself is a misnomer; it might be a dermatitis, but scarcely a rhinitis.

The medication of the pharyngeal, laryngeal, tonsillar and nasal mucous membranes by the method known as cataphoresis has received considerable attention within the past few years. My own experience has been somewhat limited, yet I have had sufficient to convince me that in a certain class of cases this therapeutic agent is highly beneficial.

Kirstein's autoscope with Thorner's modification offers some advantage as to the examination of the larynx, although practically the same view may be obtained by placing the patient on a table, with the shoulders brought to the edge, and the head allowed to hang down over the table. By opening the mouth and drawing the tongue forward, direct inspection of the larynx can be made, or if the patient stand still while the operator is sitting and with the laryngoscope placed directly above the larynx, against the soft palate, a perfect view of the larynx will be obtained.

Laryngeal tumors, especially carcinoma, have in a number of cases, been reported during the past year; it is not that the condition is any more frequent than before, but that the operation for complete and partial laryngectomy has become more perfected. The method employed by Dr. W. W. Keen, in which the patient is placed in the Trendelenburg position, is surely the ideal one.

Marestin's method of closing transverse wound of the larynx by approximating and suturing each layer of the tissue separately does not differ from the method proposed and successfully done a year ago by Dr. W. W. Keen of this city.

Cubé has introduced a new instrument for the application of nitrate of silver in substance, into the larynx.

The treatment of diphtheria seems to remain the same; local applications of Löffler's solution, the administration of the anti-diphtheritic serum is largely accepted, although there are many who

do not believe in the serum therapy. The serum therapy of tuberculosis offers nothing; in fact, little is now written on the subject.

The old reliable subject of adenoids, best anesthetic to administer in their removal, etc., still continues to hold its place in medical literature, yet the operation is performed as before, and there is practically nothing new of value. The *best anesthetic* is a *good anesthetizer*. The oxygen-chloroform anesthesia seems to be about as safe as any, placing the chloroform in any ordinary wash-bottle of the oxygen inhaler, and passing oxygen through it, and allowing the patient to inhale with the ordinary mouth-piece. It seems to be a safe and convenient method, and very little chloroform is used.

Under anesthetics Poole recommends beta-eucain for a local anesthetic in operations on the nose and throat.

Botey reports some interesting modifications of the tracheotomy tube. The tube is intended to be used in wounds and operations on the trachea.

The subject of systemic infection through the tonsils is dealt with extensively in an article by Frederick A. Packard, of Philadelphia. The subject is an interesting one and worthy of our careful attention.

Labbè calls attention to tuberculosis of the tonsils, claiming that in many cases tuberculosis of the pharynx was confounded with that of the tonsils.

The lingual tonsil, which has sprung into prominence in the last year or two, still occupies considerable space in medical literature, and many lesions hitherto supposed to be located in the larynx and pharynx are now attributed to this offending body.

The usefulness of supra-renal extract for the controlling of hemorrhage is being more clearly proven every day as we are learning more and more the best method of its application and the indications and contra-indications.

Holger Mygind has called attention to the treatment of ozena by anti-diphtheritic serum; this unfortunately is a positive statement as the treatment refers to a *condition*, rather than a disease, as ozena is a loosely used word. It is possible to theorize as to what anti-diphtheritic serum might do in the treatment of ozena provided that ozena was due to some infective lesion of the nasal cavity, but should that ozena be due to necrosed bone, due to specific lesion, or come from an infected antrum, where a decayed tooth has penetrated the antral cavity, I fail to see where anti-diphtheritic serum would be of much value; however, in a certain line of cases Gougenheim and Mygind have obtained good results as to the relief of the odor.

The old subject of atrophic rhinitis always offers something new. The application of a powder composed of citric acid 25 parts and sugar of milk 75 parts is highly recommended by Somers for the relief of the disagreeable odor.

The subcutaneous injection of cupric chloride, as suggested by Scheppegeirell, for the reduction of redundant tissues, hyperplasias and benign growths, is destined to play an important part in the treatment of such lesions of the upper respiratory tract.

Vacher reports remarkable success in the treatment of acute and chronic suppurative otitis by the use of a 4 per cent solution of formal applied to the ear by means of a syringe, followed by local applications of a 5 per cent solution on cotton.

The usefulness of the Röntgen ray is demonstrated more clearly from day to day. Not only is it useful for the location of fractures and foreign bodies, but Wassmend has demonstrated its value in determining ossification of the ossicles. The dangers attending the use of these rays are also being forced upon us.

Operations on the nasal septum still continue to occupy an important place in the province of nasal surgery. Various new methods have been set forth and old methods defended and priority claimed. In reality, the various operations are only modifications of Adams' original operation. Instruments and devices for the correction of irregularities of the nasal septum still occupy our attention and no doubt will as long as irregularities of the septum exist. At present the method of correction and instruments for the carrying out of such method are almost as numerous as the varieties of deflection. The old subject of "Deflection" cannot be placed under any one heading, and each individual case will demand some special modification and the successful carrying out of this modification will depend entirely upon the individual operating.

For the past year or so turbinectomy greeted us on the "contents" page of almost every medical journal, only to die away like many other fads, and now fortunately more people are going about their daily avocation with their turbinates safely in place. Turbinectomy is the most overworked operation within the category of nasal surgery.

It is with great satisfaction that we note the dearth of literature on the subject of actual cautery for the reduction of intra-nasal growths and thickenings and pharyngeal and tonsillar lesions. It has its uses, but I know of no therapeutic agent more abused in its use than the actual cautery in throat and nose work.

Pathology and bacteriology have done much to aid us in diagnosis and treatment and it is pleasing to note that in our special branch of medicine the advance in pathology is most marked.



While the atomizer and douche are still used, it is not with that reckless frequency as heretofore. It is a well-known fact that while much good may be accomplished by their use, yet it is possible by their improper or over-continued use to keep up the very condition you are aiming to relieve.

The question of most importance to us to-day is that of correct and early diagnosis, for, on this early discovery rests the all-essential problem of prophylaxis and cure. The appliances at our command to-day for such research are most complete.

The microscope is of the greatest value to the general practitioner and is of special value to the specialist.

The importance of urinary examination to determine the condition of the secretions and their possible effect upon the systemic condition cannot be overestimated. The same is true of the sputum and blood and to the specialist this is as highly important from a diagnostic standpoint as to the general practitioner.

The value of careful nursing cannot be overestimated. Many a difficult operation reaches a successful termination by careful, conscientious nursing under the direction of an efficient, well trained, graduate nurse.

During the year the interest shown in the section meetings has been highly gratifying. It was my good fortune to be present at the meeting of the Eastern Section under the chairmanship of Dr. G. Hudson Makuen and also the Southern Section, which met in Louisville, Ky., under the direction of Dr. J. A. Stucky. Both these meetings were well attended and many interesting and instructive papers were read. While the report may not be so good from the Western and Middle Sections, yet the worthy chairmen deserve great credit for the heroic effort they made to secure a successful meeting. The idea of the section meetings is a good one and I beg of every individual member to make these meetings a personal matter and not only attend, but take part.

Since we last met in Cincinnati death has reduced our numbers and we mourn the loss of Dr. Max Thorner, Dr. Woolsey Hopkins and Dr. W. McNeill Whistler. These men, known to most of us, were respected and loved by us all. They were honest, conscientious workers. Nothing I can say will add to the pleasant memories which we all have of them.

Gentlemen—We are gathered together in our sixth annual session to aid one another by a rehearsal of our failures and our successes; that is, our experiences. Let us do it in a liberal way and along liberal lines. To you all I extend a most hearty welcome to our City of Brotherly Love.

## PATHOLOGY OF ADENOID GROWTHS.\*

BY CHARLES W. RICHARDSON, WASHINGTON, D. C.

The adenoid masses in the naso-pharynx vary greatly in their consistency. They may, therefore, be classed into two groups, which may be called the hard or fibrous type, and the soft or gelatinoid type. Their degree of consistency seems not so much to depend upon the age of the patient as it does upon the character of the histological elements. Those in which the connective tissue is of a succulent type, rich in young cells, surrounding numerous and large masses of lymphoid tissue, the growths are usually soft and readily break down under pressure of the finger. Those composed of masses in which the connective tissue element consists of well developed fibrous tissue, in which the lymphoid tissue is abundant and the lymphoid masses are not numerous, the masses are usually firm and tough. These types are not dependent upon the age of the patient, but rather to its original histological elements, as we often find the more dense and firm tissue in the very young and the gelatinoid type in the young adult. These facts are not incompatible with the well-known observation that changes do take place in this tissue in young adult life, which is attended with increase in density of the connective tissue element and attended atrophy of the lymphoid element. Macroscopically, these masses vary greatly in their situation, size and groupings, and are subject to varying changes under stimulus of local or systemic irritation. The most frequent situation is at the vault immediately behind the fornix, where they often hang down behind the choanæ like an irregular, jagged curtain; at the dome of the pharynx where they protrude as an irregular inverted dome into the naso-pharynx, or show several more or less prominent protruding masses, which hang below the general mass like stalactites; and the posterior wall, which seems projected forward by the increased deposition of lymphoid tissue in this area. The more rare seats of these growths are along the lateral walls and in Rosenmüller's fossæ. I have examined in almost all of the many cases that have come under my observation for the presence of growth about the orifice of the Eustachian tubes, but have never yet found growth in this situation.

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These growths are influenced markedly by local inflammation in the nasal and pharyngeal chambers, as well as by disturbances of the alimentary canal.

Microscopically the masses show that they do not differ from other glands of the same type situated in other regions of the body. They are composed almost wholly of a delicate, wavy, connective tissue, rich in lymphoid cells and in blood vessels, numerous sections showing in varying numbers, round, ovoid and irregular-shaped groupings of lymphoid masses, surrounded in most cases with a succulent, reticular tissue, rich in young cells, but of a distinctly fibrous nature. The basement membrane which covers these masses is lined mostly with a columnar-ciliated epithelium, and occasionally with a compound squamous epithelium.

The pathological factors that enter into the possible development of the lymphoid masses at the vault of the pharynx, which we know as naso-pharyngeal hyperplasia, is not as clear or as thoroughly understood as we should wish, and although the pathological evidences of varied diseased conditions which play a role in the development may not make their personal impress upon the tissue developed, they no doubt exert a latent influence which is evidenced in the development of this lymphoid tissue. The condition known as tuberculosis can be traced through all its gradations in these lymphoid masses. In cases in which the tuberculous condition is manifested by present organic lesions in the lungs and other organs, the presence of the bacillus has been noted in masses of tissue removed from the pharyngeal vault. In other cases in which the tubercular disease was latent we find in the hypertrophied masses the presence of giant cells. According to Lewin's report on "Tuberculosa der Rachenmandel," the examination of all cases for the evidences of tuberculosis of the adenoid tissue shows a varying proportion in which positive evidences of tubercular involvement can be shown to exist. All the published investigations to the present time show as follows:

Lermoyez.....	32	cases with	2	tubercular.
Broca.....	100	" "	0	"
Gottstein .....	33	" "	4	"
Brindel .....	68	" "	8	"
Pluder and Fischer.....	32	" "	5	"
Luzzatti .....	50	" "	2	"
Hynitzsch.....	180	" "	7	"
Wex .....	210	" "	7	"
Lewin.....	200	" "	10	"
	905		45	



It will be seen that under nearly a thousand cases which have been subjected to close microscopical scrutiny, we find in five per cent more or less pathological evidences of tuberculosis stamped upon the hyperplasia. The question here arises as to the relationship of this five per cent of cases. Are they simply an accidental pathological change found in the pharyngeal hyperplasia of a latent tuberclose, or is it a more intense manifestation of the action of a tuberculous condition which is manifested in a fair proportion of the remaining ninety-five per cent, but not shown by actual pathohistological changes? Pathological investigations pushed along the same lines with regard to other organic lesions which have the property of transmissibility and hereditary influence might show similar percentage of positive and negative results, but nevertheless showing that these allied conditions have their influence as pathological factors in the development of this hyperplastic change.

It has always seemed to me that there was some underlying pathological condition, or conditions, that was responsible for the pathological changes herein developed. Call this condition by whatever name you please, the lymphathic diathesis, scrofulous, lymphatism, etc., there can be no denial that in children of certain types there is a peculiar tendency to hypertrophy of the glandular structures that does not exist in other children. In most of these cases, upon careful examination into the family history, you will find that in the parents, or in the more remote grand-parents, certain conditions which have made their impress upon the life of the individual affected, probably being the last hereditary evidence of the vice. This condition may be syphilitic, a tubercular evidence, the child itself or one of the parents may be the result of an ill-sorted marriage, or a product of a conception in which one or both of the parents were below par at the time of the conception.

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## ADENOIDS FROM THE STANDPOINT OF HEMORRHAGE.\*

BY DR. IRVING E. KIMBALL, PORTLAND, MAINE.

Should my own experience be taken as a text in the treatment of the subject: "Adenoids from the Standpoint of Hemorrhage," I should be inclined to treat the matter as a surgical bugaboo. In twelve years' experience, with a total of 350 operations for adenoids, I have never seen a case of primary or secondary hemorrhage of sufficient gravity to give me the least anxiety. In these operations I have used the various kinds of forceps and curettes, and in all but four cases ether has been used when an anesthetic was given.

Unfortunately my experience has not been the experience of all who do this operation. Cases are reported of serious and alarming hemorrhages and still worse fatal ones. Are these cases of primary and secondary hemorrhages becoming more frequent? And if so, to what are they due? Of course, the condition demanding this operation is more frequently recognized and consequently the operation is more frequently done than formerly; and perhaps these cases are more generally reported; but is it not a fact that with our up-to-date methods of operating for adenoids we are in greater danger from hemorrhage than in earlier methods? By up-to-date methods I mean hurry methods; too little time taken to do the work carefully. In our efforts to minimize the time of anesthesia we are on the outlook for an instrument that will do the work not only thoroughly but quickly. In my early acquaintance with this work, begun under the instruction of our lamented friend, Dr. F. H. Hooper, the time consumed was a question of minutes rather than seconds. Then it was not unusual to be thirty minutes in operating. Lowenberg's forceps or Hooper's modification was used first, then the curette and finger nail for smoothing off the surface. Plenty of blood followed, but not enough to give alarm; if the amount seemed unusual the work was suspended until the blood ceased to flow. Regardless of method employed or instrument used, a complete removal of the growth is important from the standpoint of hemorrhage, for an incomplete removal means increased chances of hemorrhage taking place.

In my opinion the curette is an excellent instrument if carefully and judiciously employed; but carelessly used, or in the hands of a novice, it can be made to do great harm. No doubt in many cases too much force is employed in its use which results in injury to the

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\* Read before the sixth annual meeting of the American Laryngological, Rhinological and Otological Society, Philadelphia, June, 1900.

underlying structures and the unnecessary removal of healthy tissue. This causes undue hemorrhage at the time of the operation and increases the chances of a secondary one. Very recently a surgeon of my acquaintance was heard to say that no up-to-date rhinologist used a forceps in the adenoid operation. It does not seem to me that any up-to-date rhinologist can afford to discard the forceps, or in fact to confine his work to any one instrument. I am a believer in the forceps carefully but firmly manipulated, with it removing all that can be so removed, then finishing off with some form of the curette, taking plenty of time in the performance of the work.

In cases where there is reason to suspect the bleeding habit in a patient, I positively refuse to operate; nor do I fail to inform myself on this point whenever a case presents itself for operation, making careful inquiries as to the family history in this particular. More difficult to guard against are such cases as are reported by Dr. Schmiegelow where the internal carotid was found to have been opened, the vessel being pushed out of place by swollen glands; and more recently the case reported by Dr. Thompson where a similar anomalous position of the internal carotid was found, and had an operation for adenoids been performed the vessel would probably have been wounded.

To guard against the danger of hemorrhage it seems but wise to keep the patient under one's personal supervision until the danger is past; twenty-four or forty-eight hours in bed is none too long, and during this period nothing but cold food, liquid or semi-solid should be allowed. Where patients cannot or will not avail themselves of hospital advantages, I advise having the operation done at their homes with a trained nurse in attendance if possible. Very reluctantly have I operated upon patients, if they had immediately to go out into the worst possible surroundings. A short period of detention at the hospital is most desirable.

I can speak of no personal experience in the use of the suprarenal capsule extract, but in view of the late reports from those who have used it, I should hesitate for fear that in attempting to moderate the usual amount of hemorrhage I might later on have a secondary one to deal with. Authorities seem to be agreed upon the methods of controlling hemorrhage when it does occur; these methods are familiar to you all. In view of my statement at the opening of my paper, I can hardly be expected to offer to you any suggestions of interest from my personal experience.

The points I wish to emphasize in the management of these cases from the standpoint of hemorrhage are:

*First*—Thoroughness of removal and carefulness in technique at the expense of time.

*Second*—The selection of instruments the best suited to perform the operation safely and efficiently.

*Third*—The positive exclusion of the hemorrhagic diathesis.

*Fourth*—Competent supervision of the patient until the danger from hemorrhage is over.



## NASAL SYNECHIA.\*

BY M. D. LEDERMAN, M.D., NEW YORK.

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Clinical experience teaches us that the nasal mucous membrane offers decided resistance to the invasion of harmful micro-organisms. Wagner has noted that the scantiness of bacteria in these chambers was due to the physiological activity of the leucocytes. Though these bodies do not totally destroy bacteria, they nevertheless diminish their power to form poisonous products, and so prevent the appearance of pathological changes.

The vascular supply of the nasal membrane is not surpassed by any other mucous membrane in the body. This anatomical factor accounts for the presence of simple edema both in chronic rhinitis and following traumatism; also for the rapidity with which granulations appear after injury to this tissue.

When we reflect upon the enormous amount of treatment this delicate structure receives, we surely must appreciate its wonderful recuperative power.

Nasal adhesions may conveniently be divided into two classes: (1) Congenital, (2) acquired. The latter may be subdivided in (*a*) those of a catarrhal nature, (*b*) those due to traumatism (mechanical or chemical) and (*c*) those resulting from diseases of an infectious nature (diphtheria, scarlet fever, syphilis and lupus).

When we recall the observations of Semeleder<sup>1</sup>, who found the nasal septum in the median line but ten times in forty-nine skulls, it would seem reasonable that congenital atresic formations should be observed quite frequently. Clinical evidence, however, does not corroborate such experience.

Watson Williams<sup>2</sup> has seen unilateral membranous occlusions, but the remains of the fetal membrane could be seen on the patent side. This congenital stenosis he thought was due to the incomplete junction of the ingrowing depression from the ectoderm, which ought to meet the portion of the oral passage that forms the nasal passage as it extends outward by absorption of the hypodermal tissues here at an early period of fetal life.

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Downie reported a similar case, but he believes that the condition was due to an intra-uterine ulcerative syphilitic lesion, and the child subsequently developed congenital specific indications.

Myles<sup>3</sup> records a case of the congenital variety, in which the atresia was located in the posterior third of the nasal cavity, and there existed thickening of the bone in the lateral and inferior walls, which formed a semi-circular projection. In another case seen by the same author, the synechia extended from the middle turbinal down to the floor of the nose and from the vestibule backwards for a distance of two inches along the nasal floor. In the latter case the obstruction occurred in a woman, and was supposed to have followed an attack of scarlet fever in childhood. The patient had never been able to breathe through the affected side from the time of the original disease.

Zuckerkindl has seen a number of congenital adhesions, but states that this condition is generally due to some form of traumatism, more often after the application of the galvano-cautery, the after-treatment of which has not received careful attention.

In the acquired form catarrhal disturbances of the mucous membrane probably account for those cases in which the nose has escaped mechanical or chemical irritation. After repeated attacks of coryza the epithelium became detached from the sub-epithelial layer of the membrane and the catarrhal ulcer or abrasion results.

Where a tendency to repeated engorgements of the turbinals exists, together with a break in the continuity of the septal membrane, one can readily picture the agglutination of the impinging surfaces and the possible formation of a connecting band. Such a bridge might exist without causing much annoyance to the individual so long as compensation continues in the patent side.

Mucus patches of the nasal membrane may occur without causing much discomfort to the patient. It is probable that their presence does not produce much irritation, or that other lesions attract the examiner's attention elsewhere, for comparatively few instances of this manifestation are recorded.

It is not my intention to dwell upon the symptomatology of adhesions, for the literature upon the subject of "nasal reflexes" offers a wide and astounding aspect. So little, however, appears in the textbooks relating to this annoying complication that I thought a discussion upon the means best adapted for its prevention and removal might prove of more than passing interest.

The class of cases most frequently seen are those forms of atresia which follow the application of instrumental or caustic agents for the

reduction of hypertrophic tissue of the turbinals or septum. In these patients there is usually a chronic inflammatory condition associated with the obstructing factor. Preliminary treatment under such circumstances will assist considerably in preventing disagreeable reaction by causing the mucous membrane to assume a more normal state. A mild alkaline antiseptic to cleanse the cavities; this followed by some remedy to reduce the tendency to engorgement. A modified Lugal's solution answers this purpose quite well. If too much irritation is experienced by the patient, a mentholated benzoin spray should follow the iodine application. We may derive some benefit from the use of the cinchonidia group. Given internally, blemostosine has acted very pleasantly in a number of cases.

This treatment should be continued until the mucous membrane assumes a paler color and the secretion lessened. We will often find that the turgescient turbinal has decreased considerably under such simple measures. Furthermore, the subsequent operative wound will heal more kindly, without annoying reaction and excessive granulation tissue.

In the use of cauterizing agents, especially the galvano-cautery, we must not forget that lithemic subjects bear such treatment unpleasantly. Secondary manifestations are usually quite marked and predisposes them to the formation of adhesions. We must deal gently with the cautery, as we cannot readily limit the radiation of heat in the nares. At the present time but few operators employ a protector for the adjoining tissues, though some electrodes are made with such shields.

For some time past I have employed the suggestion of Gleitsmann, who rubs trichloroacetic acid into the cautery wound at the same sitting. Excessive reaction seems to be retarded by the resulting eschar, and the wound heals under a soft greyish scab, which comes away in about five to seven days.

French<sup>1</sup> has observed that cut surfaces on the septum will become adherent to scar tissue on the turbinals, the result of former galvano-cauterization. He therefore believes that it is best to operate upon the septum first, and after waiting a reasonable time—four or five weeks—to continue the reduction of the swollen turbinals. To avoid leaving a surface liable to become adherent to a septal wound opposite, he suggests that the turbinal hypertrophy should be destroyed or removed with the snare or acids.

This method of first removing the septal obstruction may be of service in those instances where the turbinals are not engorged. If, however, such is the case, it is best to first reduce the turbinal hyper-



trophy, so that the danger of injuring it during the septal operation is reduced to a minimum. I have seen adhesions form in patients where the turbinal was markedly reduced by the action of cocaine and suprarenal extract during the operation, and careful technique avoided the slightest trauma to this body; yet the secondary relaxation permitted it to reach the septal wound and so become agglutinated.

In such cases it is always advisable to introduce some form of separator. Surgical sponge, or spunk, has acted very nicely in my hands. One should select the soft, elastic variety for nasal work. It can be cut into any shape, and after being covered with some antiseptic powder, should be introduced over the wound and may be permitted to remain for forty-eight hours if necessary. I have employed this substance for a number of years in cases of adhesions and excessive bleeding. Moisture increases its volume quite some, and when in position it exerts direct pressure upon the bleeding surface, and, furthermore, prevents opposite tissues from coming in contact. It has the advantage of coming away very easily without sticking to the wound and so causing secondary hemorrhage. I have been in the habit of covering the plug with nosophen powder and removing it in twenty-four hours. If there is much swelling present I cleanse the wound with a cotton-wrapped applicator and spray, and return a clean piece of "spunk" prepared as before. We must be cautious in introducing our plug to avoid bruising the tissues with the end of the forceps, as synechiæ sometimes form behind the site of the tampon.

The tendency of secondary nasal adhesions is to unite, and only the most careful after-care will bring about satisfactory results. In the healing of wounds we find that ulcerations produced by excision heal more rapidly than those caused by the galvano-cautery. The more rapid the healing process the less liability there is to secondary occlusions.

In recent cases nature assists materially by gradually absorbing a portion of the inflammatory exudate, thus causing a decided shrinking in what at first appears to be an extensive bridge. It is therefore advisable, under such circumstances, to enforce a masterly inactivity and to permit the process of absorption to exert its full influence. Energetic manipulation at this time often makes matters worse by keeping up an engorgement of the parts, inciting the formation of new granulation tissue.

When subjective symptoms are not pronounced, it is good judgment to leave the nose alone, of course keeping the passages cleansed

with some antiseptic spray. After a few weeks' rest we will frequently find the connecting tissue much smaller in area and easier to remove.

Numerous suggestions have been made for the removal of these annoying sequelæ. Roe<sup>5</sup> has found that adhesions are not apt to re-appear if one side only is touched with the galvano-cautery after cutting the band away. Cut and cauterized surfaces do not readily grow together.

Scheppegrell<sup>6</sup> recommends a conservative procedure, limiting the separation of the tissues to the parts directly in contact and causing but little bleeding. He deprecates the removal of extensive structure surrounding the synechia, as such interference inhibits the physiological function of the nose and exposes the patient to an atrophic condition.

He introduces a small celluloid sound (such as is used with the Eustachian catheter) bent to an acute angle one and a half inches from the end or at lengths suggested by the position of the nasal constriction. The bent sound is passed below the adhesion, and readily assumes its original shape as soon as it has passed same. It is then gently withdrawn, and the bent end will appear in the nares above the synechia. To this end a fine silk cord is attached, and the ordinary snare wire is fastened to the cord. Thus the obstruction is encircled by a wire loop, which is connected with some form of snare, and the adherent tissues are severed. A small sheet of thin, white celluloid is cut to a suitable size so as to rest upon the nasal floor and to reach above the upper edge of the adhesion. The advantage claimed for the celluloid separator is that it does not absorb septic material and gives rise to no irritation. Excellent results are claimed for this method.

Pyncheon<sup>7</sup> suggests the use of nasal bougies and drainage tubes. The latter are provided with a few perforations which open into the meatus. These instruments are made to conform with nature's requirements, and are made of hard rubber, which can be molded into shape by first dipping them into hot water. This observer states that the tubes are especially of service in preventing adhesions after surgical treatment.

Among the various substances recommended to keep the turbinals from encroaching upon the septal wound may be mentioned tupela wood, ivory, zinc and lead plates, silver foil, rubber tissue and Bernay's sponge. The last named has of late found many advocates. As yet I am well satisfied with the use of the "surgical sponge," introduced in the nares prepared as suggested. The "spunk" can be

sterilized, and though becoming somewhat hardened, it does not lose its expansile property. Antiseptics and astringents have been applied to it, and so offered on the market, but I prefer to use it simply covered with an antiseptic powder.

In closing, I desire to call your attention to those forms of adhesive occlusions which have assumed extensive proportions and undergone osseous change. Here the trephine, chisel and rongeur may have to be employed before a serviceable breathing space can be secured. In such cases persistent dilatation may have to be carried out for some time in order to keep the opposing surfaces from again uniting.

38 East Sixtieth street.

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## MYXO-FIBROMATA OF UNUSUAL SIZE.

BY W. PEYRE PORCHER, M.D., CHARLESTON, S. C.

*Fellow of the American Laryngological Association; Ex-President of the South Carolina Medical Association, Etc., Etc.*

Myxo-fibromata of considerable size and length are so frequently encountered that their presence would be unworthy of note unless they were of extraordinary or very unusual proportions.

The case which I am about to report might certainly be classed under the latter category, since it exceeded in length any which has ever come under my observation. A negro boy, aged about sixteen, presented himself at our dispensary clinic with a raspberry-like tumor projecting out of the left anterior naris. Recognizing its polypoid character I removed as much as I could through the anterior nostril with the snare. On examining the posterior pharynx I saw what I supposed to be another tumor hanging down behind the uvula and reaching almost to the rima-glottidis. The tumor was pulled forward with a tenaculum and the curved snare was inserted behind the tumor. The wire loop was bent forward, made to encircle the growth, pushed up as near the base of the tumor as possible, and tightened until the tumor was firmly held but not cut through. Traction was then made upon the growth as I wished, if possible, to remove the pedicle intact. The tumor came away en masse, leaving the nose widely dilated, the pedicle coming away in its entirety. The hemorrhage was scarcely enough to mention. That portion of the tumor exclusive of what I removed from the anterior nostril was six inches in length and weighed ten drachms.

I have removed myxo-fibromata which so completely filled the nasopharyngeal space that after cutting through the pedicle the tumor was wedged firmly in its bed and it was necessary to dislodge it with a spatula, but the one just reported, although not of so great circumference, was doubled upon itself in parts and extended from the end of the nose almost to the laryngeal box.

In this connection I might add, if the pedicle should be unintentionally cut through, the author's self-retaining palate retractor may be put in position. The mirror can be held with one hand and the snare, with the wire loop bent forward, be made to encircle the growth, or any enlargement of the posterior turbinates. The mucous membrane is usually rendered anesthetic from the presence of the polypus, which makes the use of the instrument particularly applicable in these cases.

Operators of even marked ability often devise schemes to get these tumors away through the anterior nostrils, apparently seeming to overlook the fact that the most natural and easiest mode of exit for them is through the mouth.

## AN UNUSUAL CASE OF TRAUMATIC RUPTURE OF THE MEMBRANA TYMPANI.\*

BY GEORGE L. RICHARDS, M.D., FALL RIVER, MASS.

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In a recent number (May 12, 1900) of the *Journal of the American Medical Association*, Dr. Packard, of Philadelphia, has an article on "Traumatic Perforations of the Membrana Tympani." In addition to reviewing in detail all the cases, eleven in number, found in 1,500 consecutive ear cases in the out-patient department of the Pennsylvania Hospital, he has carefully analyzed all the cases found in recent literature. He finds the accident a rare one, Randall in a tabulation of 5,412 cases of ear disease found but five cases of traumatic perforation. The number occurring in any one man's experience is very few. The rarity of such cases and the fact that I do not find in Dr. Packard's article or in any other literature to which I have access any reference to such a case as my own is my excuse for presenting the following to you and adding one more to the list of causes of traumatic perforation of the tympanum.

J. H., forty-three years of age, fireman, was struck while at a fire by a stream of water from a hose, receiving nearly its full force on the side of the head and at short range. He was knocked down and stunned; when he recovered he had pain in the ear and a serous discharge from it for a day or two. He came to me four days after the accident. I found a triangular rupture in the posterior inferior quadrant of the drum membrane; the drum was tense and the edges of the perforation nowhere in contact. In size it was perhaps an eighth by a sixteenth of an inch. He complained of tinnitus and some loss of hearing. The canal was carefully cleansed to guard against any infection from without and an iodoform gauze wick put in it. This was replaced every other day and in eleven days healing was complete. The tinnitus lasted a while longer and gradually disappeared. So far as I know there has been no trouble since. I think the rupture was due to sudden compression of the air in the external canal rather than to the impact of the water against the drum, though it may have been due to the latter.

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\* Read before the sixth annual meeting of the American Laryngological, Rhinological and Otological Society, Philadelphia, May 31 to June 2, 1900.

I have recently had another case of traumatic rupture of the drum in connection with a fractured temporal or what seemed like it, which although not belonging to the unusual cases of traumatic rupture may be mentioned in this connection.

A man of fifty-nine, mule spinner by occupation and of temperate habits, fell down stairs and struck the left side of the head in the region of the ear. He stated that the next day he could not speak and on the following day had a complete facial paralysis. There was a discharge from the ear from the first. I did not see him until three weeks after the accident, when he was referred to me on account of the facial paralysis. I found a small perforation in the postero-inferior quadrant through which was exuding a slight sero-sanguineous discharge. He complained of considerable deafness and some tinnitus. The discharge gradually diminished and healing took place in from four to six weeks; in about four months the facial paralysis had nearly disappeared. The slower healing of the perforation in this case was due to the injury of deeper structures and the longer time required for their healing.

Of themselves traumatic ruptures of the tympanum are of no special significance, if unaccompanied by injury to the other ear structures. The external canal is to be carefully cleansed and the entrance of micro-organisms from without prevented as far as possible. In a comparatively few days healing is complete. The symptom most complained of in nearly all the cases is tinnitus. This gradually passes away in most cases. The loss of hearing is usually not extreme and is only temporary.

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## A CASE OF HYSTERICAL DEAF-MUTISM.

BY GORDON KING, M.D., NEW ORLEANS.

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In this degenerate age when the human frame is the prey to so many diseases, the predisposition to which, or the direct cause of which, is clearly traceable to the forces or influences of civilization, the nervous system is perhaps the greatest sufferer. Few, if any, organs of the body are exempt from those manifold and varied symptoms attributable to disease or functional derangement of that great governing power of the human system. The organs of special sense are not the least rarely affected, but seldom by functional disturbances alone in such degree as to cause great distress or threat of permanent loss of power in the affected organ. The case which forms the subject of this report came under my observation less than a year ago, and illustrates how profoundly the functions of the special organs may be affected by even slight impressions made upon the nervous system by external influences.

In the latter part of October, 1899, Alfred M., a young man twenty-three years of age, was brought to the clinic of the Eye, Ear, Nose and Throat Hospital in a condition of complete deaf-mutism, with the following peculiar history: The patient is a carpenter by trade, of healthy parentage, and had himself always enjoyed fairly good health previous to this affliction for which he sought relief; is of more than ordinary intelligence and able to read and write with ease. Though small in stature, he is of strong robust appearance, and aside from an occasional tendency to despondent moods, gave no history or evidence of a nervous temperament. He had led a rather dissipated life up to a year ago when he concluded to settle down and give up his wild habits. A native of New Orleans, he had for the past few months been engaged in work in the vicinity of Bowie, La. Six days before coming to me, he attended a party where the so-called "spirit rappings," etc., were being tried as an amusement, and being somewhat of an amateur himself at playing the role of the "spirit medium," he became deeply interested in what was being done. Some one of the party suggested that the "invisible spirit" be called upon to cause the patient to write something on a piece of paper; accordingly he was given pencil and

paper and seated at a table to do the "spirit's" bidding. He was visibly affected by the suggestion, and becoming nervous and frightened, refused to enter further into the sport. A short while later, feeling rather excited by his experience, he walked home and threw himself upon a bed to rest. Thinking him to be asleep some one of the household attempted to arouse him, when it was discovered that he was not merely asleep, but in an unconscious condition. A physician was called who soon succeeded in restoring him to consciousness, but from that moment he was completely deaf and unable to utter a word. He had perfect control of his other faculties and communicated with those around him by writing. This condition persisted without change up to the time of his entrance into the hospital, and in the meantime every effort had been made to induce him to speak and hear, but without avail. The patient had grown despondent over his condition and feared that he would never recover.

Upon learning the history of the affection I was sufficiently convinced at once that the case was one of functional nature and that no organic lesion existed; nevertheless, I made a thorough examination of his physical condition with the following negative result: The auditory canals were clear of accumulated secretion, the tympanic membrane normal in appearance and sensitive to touch; nose and pharynx in good condition; laryngeal mucosa normal in aspect, but the vocal cords responded languidly to efforts at phonation, and would quickly fall apart after the first adductor movement, before they could be made to vibrate to the expired air—the typical aspect, in fact, of the larynx of nervous aphonia. The sensibility was normal. When commanded in writing to speak he would make strenuous efforts, but the lips and tongue failed to act and the larynx to give forth a sound of the voice. Aside from being able to cough and to emit a grunting sound when amused, he could utter no sound. The hearing was tested with every means at my command and he showed no evidence of perceiving any sound. The case was clearly not one of simulating deafness and aphonia, but a true loss of the function of hearing and the power of speech.

I suggested to those around that the case would probably respond to the hypnotic treatment if we could succeed in getting him under the influence, whereupon Drs. Dupuy and Murray, of the resident corps, volunteered to try their powers on him. Both succeeded readily in inducing hypnotic sleep, but beyond this could exercise no practical control over him. Being unable to hear the commands or suggestions, he could only be influenced by the force of telepathy. This succeeded so far as to cause him to make a slight movement of

the lips in an endeavor to speak, but no sound was emitted and the deafness remained complete. Not wishing to depress the patient more by prolonging the seance, I decided to resort to the use of electricity, hoping that by producing a strong unexpected shock I might induce the man to suddenly give vent to his feelings in words, and possibly at the same time to stimulate the dormant auditory nerves to some perception of sound. Two electrodes were prepared, and with one placed upon each mastoid process, a rather strong galvanic current was turned on. The patient was startled by the shock but did not exclaim. This was repeated several times until it caused headache and dizziness and had to be stopped. The faradic current was tried with the same result.

In spite of these failures I endeavored to reassure the patient that he would recover his voice and hearing if he would only have courage and assist us in our efforts to cure him. This he promised to do, and consented to remain in the hospital where he could be kept under close observation. On the following day I repeated the examination of the day before and the tests of hearing; no change was revealed. I again resorted to electricity, using a milder galvanic current with small electrodes placed in the auditory canals. This caused vertigo and gave no relief. He grew tired of the confinement in the hospital and asked to be permitted to go to his home in Carrollton to return the following morning for further treatment. This he did, and upon his return he was subjected to another hypnotic seance, this time by an expert hypnotist whom I had summoned to see the case.

Further than thoroughly hypnotizing the patient and influencing him through telepathy to move his lips and his arms slightly, his efforts were of little avail. He did succeed, by suggesting to the patient before inducing hypnosis that he would hear, in producing a subjective sensation of ringing in the ears, of which the patient complained on being aroused. This was only temporary and no change at all could be detected in the deafness. The hypnotist confessed that the stumbling block was the patient's inability to hear and hence be governed by his words of command during the sleep.

In search of other resources, I presented the patient before the Orleans Parish Medical Society and solicited examination of the patient and suggestions as to further treatment.

On the following Monday, two days later, the man returned to the hospital, his condition unchanged, excepting that he had grown more despondent and required a deal of encouragement. Having observed that he made some effort to speak when told to do so, I insisted on his persevering in this line. I sat down with him, and,



beginning with the pronounciation of his name, which I insisted that he should attempt, I had him make repeated efforts until finally he succeeded in emitting a drawling sound suggestive of his name. By persistent efforts he improved in this and went further in attempting to articulate other words and sentences written for him on a sheet of paper. Within an hour's time he had made considerable progress and could then speak his own name and a few other words distinctly enough to be understood, but spoke in slow drawling tones and with much difficulty. Upon his leaving the clinic I instructed him to persevere in his efforts and try to answer in words when anyone addressed him, instead of depending altogether on his pencil and writing pad which he always had ready. He went home and on the next morning walked into the clinic and said to me: "Good morning, doctor; you see I can talk at last, but I am still deaf." In fact, he had recovered full power of speech and retained his absolute deafness. He felt very much encouraged by his ability to talk, but still much concerned about the recovery of his hearing. I instructed him to report to me at our office in the afternoon of that day and I would see what else could be done for him, intending to get a clearer history from him since he could talk to me. When he came to me I had decided to try the effect of auditory exercise, and for this purpose had two appliances at my disposal, the Houghton electric masseur and a long cylindrical ear trumpet known as the conversation tube.

The former instrument is an electric vibrator, so constructed that when the conductors are applied to the ears a loud buzzing sound is heard. This I made him use for fifteen minutes, and although he could not distinguish the sound of the instrument, he soon after stated that he had a subjective ringing in the ears.

The conversation tube was then presented to him and I tried the effect of crying into it very loudly as he held it to his left ear. He started slightly at the first attempt, but explained that he heard no sound, but felt the force of the vibrations on the ear. This trumpet, I must explain, intensifies sound very much, and to the normal ear the lowest sounds when conveyed through it are loud and distinct. In using it on subjects who were completely deaf I have noticed that they complained of feeling the force of loud sounds without perceiving the sound. After repeating the experiment several times on the same ear, the patient said that he was beginning to hear a sound but could not understand what I said. Continuing, the deafness gradually cleared away as a mist until, at the end of half an hour, he could hear and understand a whisper in the left ear across the room. His hearing had returned in one ear, leaving the other still deaf, as I

proved by careful tests. I had not used the ear trumpet in the right ear and no change took place in that organ. Being pressed for further time, I sent the patient home with a promise to try to relieve the other ear on the following day. The next day found him again at the office and in a very cheerful mood. The affected ear was subjected to the same treatment with the ear tube which had proved so happily effective in the left ear. The result was equally as satisfactory, and the patient left at the end of half an hour in normal condition. Ten days later I had the pleasure of bringing the patient again before the meeting of the Orleans Parish Society and demonstrating his complete recovery.

This case presented features of such unusual interest throughout that I have endeavored to record the complete history, giving in detail many minor points which ordinarily would appear superfluous, but which here serve to elucidate some important facts relative to the nature and treatment of such an affection.

Whereas it is not so rarely that we find cases of complete loss of the auditory function through nervous influences, and even more often cases in which the power of speech is suspended from a similar cause, yet to find these two phenomena combined in the same subject is extremely unusual, and well worthy of more than passing notice. Gradenigo, in an exhaustive article entitled "Some Auricular Manifestations of Hysteria," written in 1894, compiled a series of fifteen cases of nervous deaf-mutism reported by various authors. Later publications have brought to light eight more cases of a similar nature, which, with my own case, make a total of twenty-four. In a study of such of these cases as have been reported in detail we find many peculiar and interesting symptomatic manifestations, and a variety of causes producing the affection. The etiology of the majority of the published cases is attributed, first, to a predisposing condition of hysteria, or of a nervous, emotional nature of the patient, the actual condition being brought on as the result of some severe shock to the nervous system, such as sudden fright, anger, sorrow or physical pain. These various exciting causes, classed under the head of "Hystero-traumatism," are not found as a feature of every case. As in those reported by Veis and Ransom, in which two healthy men, nineteen and twenty-six years of age respectively, without personal or hereditary history of hysteria, awoke one morning to find themselves deaf-mutes. Like my patient, they showed no other nervous phenomena, and were otherwise in perfect control of their mental and physical faculties. An instantaneous cure was effected in Veis' case by catheterization of the Eustachian tubes after ordinary suggestion had failed. In Ransom's case a strong faradic current applied to the larynx by means of an intra-laryngeal electrode brought about the desired result.

Other cases are attributable to that peculiar psychical phenomenon, auto-suggestion, and in this category is found an interesting observation by Lemoine, of Lille, in which a laborer, forty years of age, who for a year had been conscious of increasing deafness in one ear, became suddenly deaf and dumb after a violent fit of anger. He had sworn not to speak to anyone for an entire day, but it soon became apparent that he was really unable to speak a word. Anxiety about the condition of his ear and the dread of becoming deaf became the controlling thought, no doubt, in his depressed state of mind with the result as observed. In this case hypnotism was the agent by which his hearing and voice were restored. Lemoine discovered the same obstacle to this form of treatment that was evident in my case; *i. e.*, the inability to command the patient on account of his absolute deafness. He succeeded, however, in imparting the suggestion to the patient in the following manner: After inducing hypnosis with the aid of the rotating mirror, he closed the patient's auditory canals with his finger tips to create, so he said, an auto-suggestion relative to the hearing, and then suddenly withdrawing them, he cried, "Hear me!" At the third repetition of this the hearing began to return and rapidly became normal. He was then told that he could speak, which he did, and at the end of a hypnotic seance lasting barely a quarter of an hour he awoke, in complete possession of his hearing and speech.

Occasionally hysterical aphonia and deafness are found in children and it requires the utmost ingenuity in certain cases to recognize the true condition and effectively carry out the treatment.

Courtade recently recorded the observation of a little girl, aged three years and six months, who fell while running with a bottle in her hand and received a cut from the broken glass. The wound bled profusely for a moment and frightened the child severely, but after recovering from this no change took place in her demeanor until the next morning when she was discovered to be deaf and dumb. The child was very irritable and petulant and treatment was difficult. A rigid treatment of the nervous system was instituted, however, consisting of cold baths, electricity, bromides, etc., but the deaf-mutism still remained obstinate at the end of six months. What the final result was, Courtade did not state.

That deaf-mutism of nervous origin, particularly in young children, can become permanent, I consider quite possible, and a case that has recently come under my observation has influenced me in this opinion. I am indebted to Dr. Dupaquier, of this city, for having referred the case to me, accompanied by a full history of the affection as described to him by the parents and the patient.



A young Italian woman, twenty-three years of age, had at the age of eight years become suddenly deaf and dumb as the result of a severe nervous shock caused by witnessing an atrocious murder. According to the account given by the parents, the child was ill for several days following this incident and during that time lost the power of speech and hearing. She was taken to see a number of specialists in Italy who examined her and pronounced her case as one of hysterical nature. Treatment was entirely ineffectual, however, and the child was subsequently sent to a deaf-mute institute, where she was educated thoroughly and taught lip reading and speech according to the modern methods in vogue at institutions of the kind. When she came to us fifteen years after the onset of the affection, a careful examination proved that she was deaf to every sound, and the voice was of that peculiar monotone adopted by the deaf who have been taught to speak. She was in perfect health in other respects and of a bright, cheerful disposition. Though somewhat skeptical of the case being one of nervous origin, I decided to try the effects of treatment directed towards a stimulation of the auditory centers by means of faradism, auditory massage, strychnia. In the course of a few weeks she had learned to distinguish the sound of a tuning-fork by cranial perception and to hear a loud clapper held close to the ear, and even the voice through the long conversation tube. Further than that I could not succeed in advancing her, and concluded that, even were the case one of nervous origin, time and disuse of the function had made the deafness permanent.

Fortunately such cases are rare in childhood. Aphonia is not unusual in children as the result of the reflex disturbance from intestinal parasites. In such instances expulsion of the worms will cure the aphonia. Deafness from this cause alone has not been recorded, to my knowledge.

These forms of hysteria in children have been studied at length by Charcot, Bourneville, Terrein, and others.

Many varied complications of symptoms may occur in hysteria and involve the special senses in various ways. Cartaz relates the history of a woman who awoke from a night's sleep to find that she was both deaf and blind. She was of a decided hysterical nature. Treatment by suggestion was even more difficult than in a case of deaf-mutism. The patient recovered her sight and hearing after the application of two strong magnates to the body, a treatment that was being vaunted at the time. The author questions the curative value of the magnates.

That complete functional deafness may exist without any other hysterical stigmata is a fact not to be denied, and it is sometimes

difficult to distinguish these cases from true labyrinthine deafness or from simulated deafness. It is necessary to study the advent of the affection closely and also the general disposition of the patient. When searching for the exciting cause, when not apparent, we must not lose sight of the fact that the effects of hystero-traumatism are not always immediate. In the case I report, which I consider due to that cause, as also in the cases reported by Veis, Ransom, Courtade and Cartaz, the deaf-mutism only came on some time after the exciting incident. If due to auto-suggestion, there may be no other exciting cause discoverable. I believe it quite possible that such cases can usually be cured through the agency of hypnotic suggestion, but such treatment should be undertaken cautiously and only by persons with some experience in that art. Charcot points out the serious effects that may result from hypnotism in persons hysterically inclined. Then again it is not always practicable, as in children of early age unable to understand the object of the procedure. Among the recorded cases few have been cured by the same method, but the general idea followed out is that of simple suggestion applied in various ways. Electricity has given excellent results when applied with an electrode in the throat, but is not infallible. Generally the hearing and speech returned simultaneously under the same treatment; in my patient, when other means had failed to restore both functions, I was compelled to treat each separately and by different means.

I had hoped that the restoration of one function would be followed by spontaneous restoration of the other, but in this I was disappointed; for the deafness persisted after the power of speech returned, and hearing in one ear revived while the other remained deaf until similarly treated. This I consider the remarkable feature of the case. As for the voice, I simply appealed strongly to the will power of the man, assuring him of his certain recovery and insisting that he should continue his efforts to speak. Directing his thoughts in this hopeful channel and gaining the consent of his will had the desired effect in rapidly restoring his power of speech.

I attribute the restoration of the hearing entirely to the effects of auditory massage or shock, independent of suggestion in any form, or of other treatment. This is sufficiently proven by the fact that one ear at a time was treated by that method and responded quickly in each instance to the stimulus.

The effective instrument in my hands was the long conversation tube, which so intensified the sonorous vibrations conveyed to the auditory nerve through the natural conducting media in the middle ear, which remain intact in these cases, as to arouse the dormant nerve to activity. Any loud, sharp sound close to the ear frequently repeated would, I am convinced, have a similar effect upon an ear thus affected.

## SOCIETY PROCEEDINGS.

### AMERICAN LARYNGOLOGICAL, RHINOLOGICAL AND OTOLOGICAL SOCIETY.

*(Proceedings continued from page 277.)*

#### SPECIAL DISCUSSION—ADENOIDS.

#### **Anesthesia in Children with Adenoids and in the Adenoid Operation.**

DR. T. H. HALSTED, Syracuse, N. Y. Children with adenoids present two distinct conditions, viz., (1) the lymphatic diathesis, manifesting itself locally in the naso-pharynx, and (2) the constitutional results of mouth-breathing. Children of this diathesis and children who are compelled to breathe through the mouth because of adenoids, are affected not merely locally in the nose, throat and ear, but every tissue, every cell and every organ in the body is impaired by deficient oxygenation of the blood. Impaired lungs, cerebrum and heart are almost, of necessity, a result. He believed in the complete removal of the adenoids whenever a removal is called for, because remnants tend to enlarge and cause a recurrence of symptoms rather than atrophy and shrink as was believed to be the case a few years ago. Under twelve years of age, as a rule, a general anesthetic should be administered because the operation in itself is exceedingly painful, and the great amount of shock caused by the pain, fright and blood is such that irreparable damage may be done to the nervous system of a sensitive child. Not only this, which is an important consideration, but still more important is the difficulty in removing all the growth without a general anesthetic.

As to the anesthetic to be employed: He stated his belief that instead of being a safe anesthetic in childhood, chloroform was peculiarly dangerous in this period of life because so many children are of the lymphatic diathesis, the very condition which was found present by Kolisko on the post-mortem table of persons killed by chloroform when the heart, lungs and kidneys were in an apparently normal condition. Children with adenoids, of all others, present the most favorable conditions for the dangerous effects of chloroform. Operating during primary chloroform anesthesia was the most favorable time for a fatal result because here there are combined the great heart depressants, chloroform, fear, shock and pain, any one of which may be sufficient to procure cardiac failure.



Statistics as to deaths from chloroform, ether, or any anesthetic are unreliable, physicians refusing to report these cases. The author reported a fatal case from chloroform in the adenoid operation and stated that he could find but one other case, that of Wishart, reported during the past two years, or since Hinkel reported his case and collected the cases up to that time. So far as they go, however, statistics are all favorable to the view that chloroform is, in general surgery, from three to seven times as fatal as ether, and the author thought that children of the lymphatic diathesis, or those with adenoids, were peculiarly susceptible to the depressant effects of chloroform. He had had no experience with ethyl chloride, feeling that the objections to chloroform were equally applicable to ethyl chloride, an anesthetic in many respects like chloroform and, from the number of deaths reported, not a harmless one. Nitrous oxide was too evanescent to permit of a satisfactory adenoid and tonsil operation.

All things considered he thought the best anesthetic was ether. Primary ether anesthesia was often all that was required, but where a longer operation was to be expected the third stage should be reached. Expertness in operating should be cultivated, but not at the expense of thoroughness. Ether, as compared with chloroform, has many disadvantages, but they can be largely minimized or diminished by a good anesthetizer. As a rule, ether is badly or indifferently administered, few physicians being good anesthetizers. The author said he was lately in the habit of giving atropia hypodermically to children over seven, and often under this age, in order to diminish the excessive mucus secretion in the throat and lower respiratory passages and with an almost uniformly excellent result. On a few occasions he thought that possibly the dryness of the mucous membrane interfered with the expulsion of the blood and what mucus is secreted. He was also of late in the habit of anesthetizing the nasal mucous membrane by applying with a cotton swab a few drops of a five or ten per cent solution of cocaine. He never sprayed the cocaine, but always used a fine nasal applicator with a small cotton swab, not more than two or three drops of the solution being required. This was gently and quickly passed into both nostrils and over the mucous membrane. This was done on the theory of Laborde that nausea and vomiting caused by ether or chloroform is through the irritation of the peripheral branches of the trigeminal nerves which, when irritated by chloroform or ether, cause a reflex stimulation of the pneumogastric and inhibitory respiratory center in the medulla. The nerve endings, deadened by cocaine, are not irritated

and consequently nausea and vomiting are diminished and the struggling and suffocation lessened to a marked degree. In the past six months the author's experience with this has been most satisfactory.

In children above twelve and fourteen years of age he is in the habit of operating more often under cocaine anesthesia than under general anesthesia, because at this age the patient commonly prefers the pain and a second operation to the disagreeable effects of a general anesthetic.

#### **Adenoids from the Standpoint of Hemorrhage.**

DR. IRVING E. KIMBALL, Portland, Me. This paper appears in full in *THE LARYNGOSCOPE*, November, 1900, page 330.

#### **The Histology of Adenoids.**

DR. NORVAL H. PIERCE said that adenoids were a hyperplasia of tissues normally present. This hyperplasia should only be looked upon as pathological when it interfered with the functions of other parts or itself became secondarily diseased. These growths are of two great varieties—the diffuse and the stalactite. The surface may be either coarsely granular or nearly smooth, or more or less fissured. The ciliated columnar epithelium is cuboid or pavement-shaped in places, owing to pressure. Beneath this epithelium is a delicate basal membrane. The principal part of the mass is composed of lymphoid nodes identical with the solitary follicles of the intestine, and a reticulum holding together these nodes, together with follicles which open on the free surface of the mucosa. Subsequently the lymphoid nodes become atrophied by pressure from contraction of the maturing embryonic connective tissues. These growths were frequently affected by tuberculosis and other infections.

#### **The Pathology of Adenoids.**

DR. CHARLES W. RICHARDSON, Washington, D. C. This paper appears in full in *THE LARYNGOSCOPE*, November, 1900, page 327.

#### **Operative Procedures for Adenoids.**

DR. JOSEPH A. WHITE, Richmond, Va., discussed this phase of the question. He said that he had operated a good many hundred times himself, and yet no matter what method he had adopted he never felt satisfied that he had thoroughly removed all of the growths. So long as bleeding followed gentle use of the probe the space was not free of adenoids. Some adenoid growths resemble a bunch of worms, some are conical with apex down; others are flat and cushion-shaped, and keep up a constant discharge of mucus; others still are composed of two lobes with a deep fissure separating

them. He could not see how the forceps could be discarded entirely. While the curette was the main reliance, no curette could clean out the space completely, particularly the masses on the sides in the vicinity of the Eustachian tubes. For the removal of these he used the forceps. He was in the habit of operating under general anesthesia in children, though doing so with fear and trembling. He was accustomed to use a palatal retractor of his own devising, and while this was in position he examined the space thoroughly before doing an operation. This was entirely feasible in children over five years of age; for younger ones he had to depend solely upon the examination with his finger. It was ordinarily possible in adults to see the vault satisfactorily, but there were many cases in which such a view could not be obtained without the use of this device. It had been invaluable to him and to others who had learned to use it. His experience had been that it was necessary to be trained to use this little instrument to advantage. The instrument was exhibited. It had been his experience that where the operation was not thoroughly done the patient would be annoyed afterward with considerable discharge in the pharynx. He had seen one operator do marvelous work in the post-nasal space with the snare, but personally he could not do this, and, indeed, the majority of operators depended upon the curette, using also the forceps. Occasionally he had made use of the galvano-cautery to remove small fragments not easily removed in any other way. Without anesthesia the only position was with the patient sitting in front of the operator. When anesthesia was employed, the child was anesthetized with the head down. As soon as under the influence of the anesthetic he inserted the mouth gag, the child's head hanging over the chair. He was so afraid of general anesthesia in children that he operated under cocaine alone whenever possible, and rarely used profound general anesthesia.

#### **The After-Treatment of Adenoids.**

DR. FREDERICK C. COBB, of Boston, said that if the operation was thoroughly and carefully done there was seldom any sepsis. It was generally sufficient to keep the child quiet for a day or two. He had occasionally noticed that the operation had started up an old middle-ear disease. He had tried at one time sprays to keep the parts clean after operation, but they had been abandoned, feeling that with a proper technique they were unnecessary. He had only once been called upon to treat hemorrhage, and in that case the bleeding had subsided under the use of simple astringent sprays applied to the nose and naso-pharynx. It had come on three days after the operation.



## GENERAL DISCUSSION.

DR. A. G. ROOT said that in young children, particularly if there was any disorder of the kidney, he preferred chloroform. Deaths from chloroform anesthesia were still but little understood. It was assumed by those who had studied this subject that the deaths that had occurred from chloroform anesthesia were probably the result of an enlarged thymus gland. The exact pathology was, however, not well understood. It was often necessary to keep the tongue well forward, yet the application of forceps to the tongue seemed to him simply barbarous. It was much better to pass a stout ligature through the tongue, as this gave complete control, did not leave the tongue sore afterward, and did not inflict traumatism which might eventually lead to the development of epithelioma. He was one of those who believed the forceps could not be discarded. An instrument which had not been mentioned in this discussion was one called an adenotome, and, in his hands, it had proved of considerable value. It was easily used, and would sometimes take the place of the forceps. It seemed to him that septic conditions were liable to follow invasion of the post-nasal space and hence an effort should be made to keep this part clean.

DR. PRICE BROWN expressed his faith in chloroform, never having used ether in these cases. In using chloroform there was a certain definite small rate of mortality. In a practice extending over a quarter of a century he had not seen a fatal case from chloroform, and while it might occur to him at any time such an accident would only have the effect of making him more careful in its administration. This anesthetic should be administered drop by drop. In two instances he had seen serious effects from pouring somewhat larger quantities on the napkin at a time. Regarding instruments, he would say that he never uses the forceps, finding that he can accomplish the desired result by the proper use of curettes of various sizes and of the requisite sharpness. In the side spaces he could remove the fragments easily with his finger nail. He had at one time tried a forceps, but had been disappointed with its action.

DR. RICHARDS thought the selection of instruments and of position for operating was a matter of individuality. Personally he always operated with the patient in the sitting position and with ether as the anesthetic. He recalled one instance in which most alarming symptoms had followed the administration of chloroform in the hands of a skilled anesthetist, and it was not likely that he would employ this anesthetic agent again.

DR. W. C. PHILLIPS said that he had always considered cocaine exceedingly dangerous in young children, and he would hesitate a long time before using it in such cases; hence it was only adding to one's troubles to go from chloroform to cocaine. He was surprised that Dr. White used the forceps for his final work; in New York City the practice was to use the forceps in the first stage of the operation and finish up with the curette. He did not think the position of the patient was a matter of any importance; probably no one in the room had ever seen death from inhaling blood. He never thought of lowering the patient's head to prevent blood from going into the trachea, and believed if the blood went down it passed into the stomach and not into the trachea.

DR. F. H. KOYLE, of Hornellsville, said that he had frequently made use of the A. C. E. mixture instead of either chloroform or ether, using an Esmarch inhaler. It had all the advantages of chloroform and of ether, and none of the disadvantages of either of these anesthetics. The chief danger from chloroform lay in the fact that it was usually administered by those who had not sufficient experience with it. It should be administered by the drop method, the patient, if old enough, being instructed to count, and with each count one drop of chloroform being given with the Esmarch inhaler. He did not approve of the use of either the tongue forceps or of the ligature passed through the tongue. It was an easy matter for the assistant to keep the jaw well forward by the thumbs placed behind the angles of the jaw.

DR. LEWIS C. CLINE, of Indianapolis, thought the selection of the anesthetic and of the instrument was a matter chiefly of early teaching and individual experience. It had been his misfortune to see a healthy child of five years die from the use of cocaine in the hands of another practitioner. The worst experiences he had ever had were in three cases, and in each of these it had been with the first few inhalations of chloroform. He had been severely criticised for advocating the removal of adenoids without anesthesia, but he believed it was right. The child was firmly held, and he took plenty of time in operating. He had frequently resorted to the method of removing adenoids piecemeal in both children and adults, and his patients had come back again and had the operation repeated until finished.

DR. THOMAS J. HARRIS, of New York, thought it hard to reconcile some of the discordant views expressed concerning anesthetics. Speaking for the Manhattan Eye and Ear Hospital, of New York, he would say that ether was generally employed, and there had been

no fatal case from it certainly in the last ten years. He had operated on quite a number of very young children, had had one fatal result. In this case an infant was recovering from pneumonia and there seemed to be so much obstruction to breathing that he had removed with the finger nail as much adenoid tissue as possible without giving an anesthetic. The child had been temporarily relieved, but had died thirty-six hours later, apparently from some meningeal complication. No autopsy was permitted. At one time he had advocated operating only when there was much adenoid tissue present, but to-day he believed it should be removed whenever there was sufficient material of this kind present to be recognized. This was especially necessary from the standpoint of the aurist. English aurists were in the habit now of making an application of iodine or other astringent to the naso-pharynx after the operation. They thought it tended to prevent a recurrence.

DR. M. D. LEDERMAN recalled two or three cases in which, relying upon examination of the post-nasal space with the mirror, he had decided that there was little or no adenoid tissue, so that he believed the finger was the better guide. Within the past six months he had come to use chloroform, though formerly he had made use of the A. C. E. mixture. He operated with the child in the recumbent posture when chloroform was used, without letting the head hang down. He had never thought it necessary to resort to profound anesthesia. He began with the forceps, and followed this with the curette and the finger. Where there was a roughness of the vault after the operation, it was certainly well to apply a solution of iodine.

DR. R. C. MYLES said that at the last meeting he had had occasion to remark upon the danger of drawing deductions and conclusions from personal experience alone, because in comparison with the grand total, individual experience must sink into insignificance. Having had a fatal case from anesthesia he had learned privately of a number of other fatalities—so many as to show conclusively that statistics on this subject are absolutely false and unreliable.

His patient, a man of thirty-seven years of age, was suffering from nasal stenosis and a large mass of lymphoid tissue in the rhinopharynx. The patient was compelled to sleep sitting up in a chair. Several attempts were made to remove the growths under cocaine anesthesia, but the patient resisted so violently that the operator was forced to discontinue his efforts. The patient was apprehensive and extremely nervous. An expert gave nitrous oxide gas, which the patient took very badly, then ether was employed. The anesthetist



failed to get him thoroughly under the influence of ether, as the patient would become very dark and purple and cease to breathe. The patient was placed face downwards over the edge of a table, a gag was introduced and the forceps were rapidly introduced two or three times and withdrawn with pieces of tissue from the rhino-pharynx. Hemorrhage was moderate. The patient suddenly stopped breathing and became completely relaxed. Tracheotomy was performed, artificial respiration and oxygen gas were employed diligently for more than an hour without any revivifying effect.

He knew of an institution in which a great many adenoid operations were done on children, and done very rapidly without anesthesia, by the use of a specially devised antero-posterior cutting curette, sharpened especially for each operation. He knew of no other instrument that would remove such large masses from the naso-pharynx. Any one who is not expert both with the forceps and with his left forefinger should not introduce forceps into the rhino-pharynx. If the forceps were used without the guidance of the finger, and pieces were removed and then examined with the microscope, it would be found that many of these fragments of tissue should have been allowed to remain in their natural position.

DR. SARGENT F. SNOW, of Syracuse, said that he had used the bromide of ethyl in fifteen cases, and with results that had pleased him. The desired anesthesia had been induced, and the patients had been awakened promptly, so that they could spit out the blood. He used a small quantity of the bromide of ethyl, six to eight drachms, taken out of a hermetically sealed tube.

DR. S. MACCUEN SMITH, of Philadelphia, said he had used bromide of ethyl in two or three cases, and in each one it had been necessary to perform artificial respiration. The anesthetic had been administered by a gentleman familiar with its use, and he had given it for Dr. Montgomery, on whose recommendation Dr. Smith had tried it. He had had some experience with anesthesia induced by the passage of oxygen gas through chloroform. So far as he had observed its effects, they had been excellent. The color of the patient improves under its action, and it is followed by very little nausea. The chief objection to the method was the expense.

DR. T. R. CHAMBERS, of Jersey City, said that he had found five per cent of the cases among children did not require anesthesia at all. Chloroform should be administered with a mixture of tact and time. It takes about fifteen minutes to get a child properly under the influence of chloroform, minimizing properly the fear and shock.

Chloroform was the only anesthetic that he employed in these cases, and he gave it to the point just beyond what is described as surgical anesthesia.

DR. HALSTED, in closing, said that Dr. Myles had well covered the ground of the lack of value to be placed on statistics of fatalities from anesthetics. He knew, through verbal communication, of more deaths from chloroform in this operation than were recorded in all American literature. He believed that an operation of any kind should never be done under primary chloroform anesthesia as it was in this stage that most deaths occurred—probably because of the pain and fright added to the chloroform. To operate under chloroform in the upright or semi-upright position was, by all, recognized as placing the patient in the most favorable condition to succumb to the chloroform. He had no fear of the slight amount of cocaine used in the nose preparatory to giving ether. The amount was exceedingly small, not comparable with the amount used in doing the smallest operation under cocaine, and the ether would offset any possible ill-effects of the cocaine. One speaker said the adenoid operation was not a painful one under a local anesthetic. He entirely dissented from this, believing it to be one of the most painful operations which we are called upon to do, and thought the speaker must have hypnotized his patients if they experienced no pain.

DR. WHITE said that he kept the patient's head down, not merely to get rid of the blood, but because he was using chloroform. If he was using ether he would put the patient in the erect posture.

### **The Abortive Treatment of Acute Mastoiditis in Children and Adults.**

DR. J. F. MCKERNON, of New York City, the essayist, said he had tried dry heat in ten cases, four of them being children. The heat had been applied by means of the hot water passing through the Leiter coil. He had found that the tenderness had been but slightly diminished, but on substituting ice water for the hot water the tenderness had quickly subsided. The ten cases were not selected, but were taken as they presented. He had since used the hot water treatment in fourteen other cases, and if anything the results had been even less favorable. The treatment he advised was to enlarge the opening in the drum, if sufficient drainage had not been secured by nature, and in addition where there was marked swelling or prolapse of the superior and posterior canal walls he used what some had described as "an internal Wilde's incision." Absolute rest is

enjoined, and the ice coil is applied firmly to the mastoid process and bound in place. The ear is irrigated at intervals of two to three hours with warm bichloride solution 1:4000. If after twenty-four hours of such treatment the tenderness over the mastoid had not almost entirely disappeared, the cold coil is reapplied again for twelve hours more. The majority of these cases could be discharged cured within a week. In a very small percentage the tenderness would persist after the thirty-six hours, and then if the temperature were less than 100° F., he would reapply the coil for another period of twelve hours. If there were still no improvement, the classical mastoid operation should be done. As a rule, in children under three years of age, the ice coils should not be applied after thirty-six hours, but if the tenderness had not subsided in a few hours after its removal the mastoid should be operated upon. He was of the opinion that if the discharge were examined bacteriologically at an early stage it would possibly serve as a trustworthy guide in making the prognosis. If streptococci were present in abundance, 50 per cent of the cases would ultimately require operation. Thus, in a series of fifty-seven cases of acute mastoiditis examined in this way, forty-two showed streptococci in abundance, and of this number thirty-nine required operation.

DR. W. C. PHILLIPS said that he did not feel like condemning heat so strongly as had the reader of the paper. The physician's duty was to decide whether or not the case was well advanced. He could not say that hot applications were better than cold ones, though perhaps safer. He felt quite sure one of his cases had died from the result of a too prolonged application of the ice coil at too late a stage of the disease. It seemed to mask the symptoms. He was disposed to confine the use of the ice coil to twenty-four hours, or at most thirty-six hours. He had made it a rule for some time past to have a bacteriological examination made of the discharge. This year streptococci had been present in every instance, and sometimes also pneumococci and staphylococci. The ice coil has a tendency to mask the symptoms, and this should be given careful consideration, particularly by the inexperienced. He made it an invariable rule not to reapply the ice coil.

DR. CHAMBERS said that during the past few months he had studied bacteriologically fifty-eight cases of mastoid disease, thirty of which had gone on to operation. He felt that in the other twenty-eight he had aborted the disease by the injection of water at a temperature of 120°F. into the auditory canal. Some of his patients had stated that they had used the water at a temperature of 130°F.,



and with increased comfort. He used the douche with hot water through the ear douche with outlet pipe at intervals of an hour for two or three days and followed it for fifteen minutes by an application of ice, and for another fifteen minutes by the hot-water bag, and then started again with the hot-water douche. In twelve per cent of the cases Fränkel's pneumonia bacillus had been present. In a number of instances paracentesis of the drum had been performed one or more times. The cases showing the pneumonia bacillus had been most easily controlled. If streptococci were present, the opening in the drum was cauterized with chromic acid; if the germ was Fränkel's bacillus a pepsin treatment always; in every case where it could be thoroughly employed promptly stopped the discharge.

DR. JOSEPH S. GIBB said that he was surprised to have been selected to take part in the discussion on the abortive treatment of acute mastoiditis when there were so many better qualified present. However, it would be impossible not to have met with these cases in an experience covering several years in a large hospital in which he had the honor to have charge of the ear, nose and throat cases. According to his observation cases of acute mastoiditis are prompt in developing and usually demand active and energetic treatment for their relief. He was equally sure that prompt abortive measures in a certain proportion of cases is rewarded by good results.

Too often these cases are overlooked or treated lightly by the medical attendant until unmistakable evidences of suppuration leaves the surgeon nothing to do but to open the mastoid and evacuate the pus. The experience he has gained in the wards of the Episcopal Hospital, where his attention is called to the cases early, has convinced him that much may be done of an abortive nature. We have in this hospital constantly a large number of cases of typhoid fever, and ear complications have been unusually prevalent, especially within the past two years. He has seen several very severe cases of acute otitis media in the past winter and in all of these cases symptoms of mastoid irritation were present and in a few what would be regarded as unmistakable signs of inflammation were present, and yet in this group of possibly 8-10 cases (he has no record, but reports from memory) in but one was it deemed necessary to open the mastoid. One case in particular that impressed him with the value of abortive treatment was that of a young girl of twenty who during convalescence from typhoid was suddenly seized with intense pain in the left ear which was quickly followed by profuse purulent discharge from the auditory canal. The discharge gave little or no relief to the pain and very soon the mastoid became boggy, red and exquis-

itely tender. The pinna stood out from the head and there was bulging inward of the posterior wall of the auditory canal. So marked were the symptoms that he directed the resident physician to make preparation for opening the mastoid on the day following his visit to the hospital. An urgent call out of the city prevented his reaching the hospital that day, so he phoned the resident to have three leeches applied to the mastoid region and to follow this with continuous applications of the ice bag, besides giving some general directions as to the secretion and remarking he would be there on the following day to operate. The next day when he saw the patient there was a marked change in her condition; the inflammatory condition about the mastoid had subsided, the pain had lessened very much and even the discharge from the ear had diminished in quantity. The treatment was continued and in a period of about two weeks there were absolutely no ear symptoms present and the girl departed for her home in Scotland. This case represents cases which he has seen again and again, so that he has come to the belief that we should be somewhat cautious in our advocacy of radical measures; unless there are positive evidences of the presence of pus, or symptoms of cerebral complications are present, an earnest effort should be made to combat the inflammatory action by means of leeches, ice or Leiter's coil to the mastoid combined with proper attention to the secretions, *e. g.*, unloading the portal circulation by small doses of mercurials and effecting free diaphoresis and diuresis. Attention should be given to the ear should suppuration be present and free drainage maintained. While this is his firm belief at the same time he does not believe that these measures should be persisted in too long. Should there be no abatement in the pain in twenty-four or at most forty-eight hours it would certainly be the part of good surgery to cut down on the mastoid and open up the mastoid cells.

DR. M. R. WARD said that he had had considerable experience in the treatment of acute mastoiditis, but he discarded the use of leeches and trusted solely to cold as an abortive measure.

DR. S. F. SNOW said he could not help feeling that many cases of simple inflammation of the mastoid were needlessly operated upon. He had formerly used heat, but had changed to cold, not that he thought that there was so much difference in the results, but because cold was more easily applied. The first indication was to establish free drainage from the tympanic cavity, and if this were attended to it was quite safe, even in the more advanced ones, to await the result of using ice. The only exception was in cases show-

ing symptoms of intracranial complications and cerebral disturbance. The heat or cold should be applied uninterruptedly from the beginning to the end of the abortive treatment. It was safe to continue the constant application of ice so long as continued improvement was apparent. He felt more than ever confident on this point from recent experience. If a low temperature of the parts were continuously maintained the production of pus would be lessened.

DR. LEDERMAN thought that there could be no doubt that cold applications properly made, free incision and drainage constituted the proper abortive treatment of this disease. Some cases are more comfortable with hot applications; this is more noticeable in the sub-acute stage.

DR. E. E. HOLT, of Portland, Me., said that he had tried heat, but had found that it macerated the tissues and favored their invasion with germs. On the other hand the cold, by masking the symptoms, was apt to be misleading. Instead of either cold or heat he now made use of the glyceride of carbolic acid and found it better than either of the others. It had the advantage of not masking the symptoms. When there was any marked bulging behind the ear he was in favor of prompt operation and the establishment of good drainage.

DR. L. C. CLINE said that in early stages the main thing was to secure proper drainage. Calomel and saline purge was perhaps as useful as the application of cold.

DR. R. C. MYLES said that it had been his experience, after making a free incision in the posterior quadrant and into the periosteum, to observe that there was a tendency for the wound to close and interfere with drainage; he therefore favored not only the straight incision, but also a curved or T-shaped incision. In some of the cases he had excised a circular portion of the drum, and these cases had done the best of all. Many of these cases had come under observation last winter, and only a few of them had required operation.

DR. B. ALEX. RANDALL, of Philadelphia, was invited to take part in the discussion. He said that he had generally found hot applications quite satisfactory, but, moved by Dr. McKernon's comparative tests, had recently tried cold. In a series of cases in which there seemed a fighting chance he had made effective use of the cold, yet it had so happened that all of them had required operation. On the other hand, at least a dozen of the apparently unfavorable cases treated by heat had been cured without operation. In the past ten years heat had rendered him valuable assistance in over 600 mastoid cases cured without operation, while in hardly a dozen had it failed.



DR. L. B. GRADDY, of Nashville, said that he believed that when the mastoid cells had become infected with pus-producing organisms the application of heat or cold could do little if any good in the way of arresting suppuration. He favored the early use of purgatives and the establishment of drainage. He had been particularly pleased with the application of leeches over the antrum, using from two to six leeches, according to the age and physical condition of the patient. This application he made invariably if the case is seen early. If, however, infection of the deeper parts had already taken place he operated.

DR. McKERNON, in closing, thought it was often a fine point to determine when the cold should be applied. When there was an inflammation of the lining membrane of the antrum and cells he believed such treatment did good; he did not expect to stop suppuration that had already taken place. He had tried leeches, but having found, in hospital practice, infection of the leech-bites, he had discarded this mode of treatment except occasionally in private practice. All of the streptococcus cases go on to suppuration and abundant formation of pus. He had had no experience with the glyceride of carbolic acid. He believed in free drainage, purgation and absolute rest as the important factors in the early treatment. If a good, free incision were made at first there would be rarely any occasion for a second one.

*(To be continued.)*

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## DEATHS.

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PROF. DR. A. KUHN, Strassburg, Germany.

DR. LAURENCE TURNBULL, Philadelphia, Pa.

DR. RALPH J. WENNER, Cleveland, O.

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## THIRTEENTH INTERNATIONAL MEDICAL CONGRESS.

### SECTION OF LARYNGOLOGY AND RHINOLOGY.

*Summary of Proceedings—Sessions of August 4, 1900.*

*(Proceedings continued from page 286.)*

#### **Purulent Ethmoiditis—M. HAJEK (Vienna).**

*Pathologic Anatomy.*—The name, purulent ethmoiditis, is applied to the diseases of the mucous membrane and bony framework of the ethmoid, accompanied by a purulent discharge, with the exception of affections of a tuberculous, syphilitic, traumatic, or malignant nature.

*Diseases of the Mucous Membrane (Muco-Periosteal Investment).*—

1. Intense forms of catarrhal inflammation, the free nasal surface alone is attacked, or the orifices and the cells of the labyrinth. The best form has a tendency to chronicity.

2. Chronic forms of catarrhal inflammation. Hypertrophic tumefactions of the muco-periosteal investment of the exterior or interior of the cells or both simultaneously. Formation of polypi on the nasal wall of the ethmoid (extracellular and intracellular myxomatosis of Bosworth).

3. Constant form of chronic inflammation. Abundant production of polypi upon the nasal part of the ethmoid investment. Formation of erosions upon the mucous membrane of the cells. Production at the same place of cushion-like thickening and granulation tissue.

*Disease of the Bony Framework.*—1. Slight alterations. Irritation of the periosteum, and later condensing or rarefying osteitis. (Hajek, Zuckerkandl).

2. Greater alterations. Osseous necrosis in acute and chronic empyema from pressure, thrombophlebitis and periostitis of the opposite side, like that taking place in the frontal sinus. Later, necrosis of the ethmoid, following extension of an adjacent osteitis or periostitis from the maxillary or orbit.

#### **The Treatment of Purulent Ethmoiditis—F. H. BOSWORTH (New York).**

In purulent ethmoiditis, the essential condition is one of imprisoned pus. Each of the trabeculae involved constitutes, as it were, a small abscess. There is but little tendency to a spontaneous

cure. The prominent and practically the only indication is to open each and every cell, and to release the imprisoned pus accumulation. If this be true, the important consideration is as to the best method of accomplishing this end. We may use the gouge, forceps, snare, curette, scissors, burr, spoon or other devices. In my own experience, the end is best accomplished by first uncapping the ethmoid cells by the use of the wire snare ecraseur, and then breaking down the trabecular walls by means of the burr.

### **Recurrent Painful Catarrh of the Frontal Sinus Following Stenosis of the Fronto-Nasal Canal—LUC (Paris).**

From the observation of the two cases which form the object of this work, the author has noted the following symptoms :

Coincident with a coryza a frigore occurred in half of the forehead, and always on the same side, pains with sensibility on pressure and at times swelling. These pains occurred in paroxysms, several days in succession, and paroxysm ceased on the expulsion of a variable quantity of muco-pus.

In the first case the narrowness of the naso-frontal canal seems to have been congenital, and the affection at first catarrhal, judging from the character of the nasal secretions at the time of the paroxysm, terminated in a chronic empyema.

In the second case, on the contrary, the fronto-nasal stricture seems to have originated in a former surgical interference for empyema ; the operation not having been followed by the systematic enlargement of the fronto-nasal canal.

In both cases the recurrence of the attacks was definitely checked by the following intervention : First, by the opening and cleansing of the sinus, and second, by the enlargement of the naso-frontal canal, by the destruction of the nasal portion of the floor of the sinus and the more anterior ethmoidal cells.

### **Contribution to the Radical Operation of Combined Chronic Sinusitis—TAPTAS (Constantinople).**

In cases of chronic frontal sinusitis, complicated by suppuration of the ethmoidal cells, and sphenoidal sinusitis, it is possible to open and clean this whole fronto-ethmo-sphenoidal cellular system in a single sitting under chloroform.

For this end you must prolong the incision of the eyebrow, used in M. Luc's operation, to the inferior third of the bones of the nose proper, on the median line, then after having opened the frontal sinus, by its anterior wall, prolong the osseous incision



downwards, removing the inferior border of this incision with fine cutting pliers so as to remove, together with the frontal border, a part of the ascending apophysis of the superior maxillary.

A perpendicular opening, one centimeter wide, running upwards, is thus formed, high enough to allow the careful curettage of the frontal sinus in that direction, the lower extremity of the incision reaching the middle of the nasal bone. The inferior portion of this opening is thus on a level with the ethmoidal and sphenoidal sinuses. Then by penetrating with a curette or a fine conchotome, you remove the whole ethmoidal body and open the sphenoidal at a depth of five centimeters from the external wound. The operation is then terminated according to M. Luc's procedure.

In cases of very large frontal sinuses, in which the curettage would necessitate the removal of a large portion of the anterior wall, to prevent its sinking, it will be found expedient to make a second opening to curette the external part of the sinus, thus leaving a bony septum, between the two, to support the skin.

#### **Palpation of the Maxillary Sinus, and Endo-Nasal Operation for Empyema of the Maxillary Sinus—KAPARIANTZ (Moscow).**

The method of diagnosis by palpation consists in pressing a sound bent at right angle, in front or behind the processus uncinatus, to evacuate the pus by drops or in jet from the orifice of the maxillary sinus.

The endo-nasal operation: An incision is made with a special knife in the wall of the maxillary sinus in front or behind the processus uncinatus. The processus uncinatus is removed with a conchotome, after which you proceed to resect the inferior portion of the interior osseous wall of the sinus, as well as the middle portion of the inferior turbinated bone with a special cutting forceps.

Thirty-four cases operated with thirty-one complete recoveries.

#### **The Decortication of the Face—GORIS (Brussels).**

The decortication of the face, performed for the first time by Prof. Bardenheuer, of Cologne, in 1898, has for its object to better reach the deep portions of the nose, by enlarging the field of operation without incising the face. This operation consists in mobilizing the whole facial mask by incising the mucous membrane of the mouth from one apophysis of the zygoma to the other.

The surgeon then introduces the fingers in the lips of the incision and lifts up to the forehead the mobilized mask, taking care to incise the nasal mucous membrane on a level with the nasal fold.

This is the operation which Goris has performed eight times indiscriminately for ethmoido-maxillary empyema, with slight modifications, however, to the methods of Bardenheuer.

The operation is especially applicable to persons suffering from pansinusitis, or ethmoido-maxillary sinusitis, refusing operation by the facial incision; otherwise the other methods are less bloody and more generally convenient. The decortication leaves no holes.

This operation is also of advantage in cases of obstinately recurrent maxillary sinusitis, in order to destroy the fistulous tracts which often are the cause of the recurrences.

### **Surgery of the Facial Sinuses in Its Relations to Surgery of the Orbit—GEORGES LAURENS (Paris).**

The author studies the anatomical, clinical and operative relations between the facial sinuses and the orbital cavity. Has operated five cases of fronto-ethmoidal sinusitis or simple ethmoiditis, with orbital fistula and consequent phlegmon, which had been previously dealt with in various ways. The results are good. truly radical cures, thanks to his surgical technique, here stated.

Long curvilinear incision starting from the end of the eyebrow, winding around the root of the nose and terminating a little inside of the internal commissure. The incision is carried to the bone. Careful hemostasis of the periorbital-arterio-venous circle with section of the supra-orbital nerve. All the organs (muscles, ligamentous alae, pulley of the great oblique) inserted on the internal wall are detached, the eyeball is reflected outward with a blunt retractor. Avoid cutting the anterior ethmoidal arteries which constitute the upper limit of the field of operation for the gouge. You then have before you the thin plate of the ethmoid, often carious. Remove it with the curette and you are thus enabled to work within the entire anterior ethmoid. This road gives free access to the naso-frontal canal, and thence to the frontal sinus. When this sinus is infected and has already been trephined several times, the best procedure to obtain a radical cure is to remove the whole anterior wall. In three cases the author has been obliged to resect the superciliary ridge and a large portion of the vault of the orbit to reach deep diverticula.

The author always drains through the orbit when there is no pus in the nose. The esthetic result in cases of ethmoidal fistula is perfect, the cicatrix is scarcely visible, being lost in the eyebrow. In the resection of the vault of the orbit a more or less marked depression persists. The author has never noticed troubles of mobility, nor strabismus after the operation.

**The Methodical Use of Drills, Trephines, Saws, Gimlets, Operated by the White Engine or the Electric Motor, in the Surgery of the Nasal Fossæ and the Sinuses of the Face—SUAREZ DE MENDOZA (Paris).**

The author introduces a small socket fitting the arm of White's engine to which all the accessories used by dentists can be adapted.

On account of the similarity between the affections of the mastoid, the frontal and maxillary sinuses, the osseous portions of the nasal fossæ and the affection of the teeth, the author thinks that when it is necessary to cut, resect, saw, file, brush, the instrument of White, operated by electricity or otherwise, renders eminent services. This is the reason why he has invented the foregoing socket, to which the above instruments can be readily adapted, for operations on the mastoid, to perforate the internal wall of the maxillary sinus, to remove fungosities contained in the sinuses, etc.

The author then presents the instruments devised by him for the rapid and radical cure of nasal obstruction.

Also, besides the generator and electric motor: 1st, White's flexible arm armed with a guide; 2d, a measuring stylus; 3d, tubular saws; 4th, protective gutters; 5th, tube tampons; 6th, Palmer's specula modified.

The author has thus operated 125 cases with gratifying results.

Many confreres, the author says, in closing, having made use of my procedure. I had occasion to notice that when one is not thoroughly familiar with the manipulation of the instruments, he may, during the few seconds that the operation lasts, meet with a regretful accident, especially if the patient slightly raises the head, thus modifying the line of action of the saw which the surgeon holds. To facilitate the operation and bring it within the scope of the beginner, I have invented this instrument, which I will call the guide-protector.

As you see, the protective guide, instead of being held by the hand, is fixed to a ring, which is soldered to a handle. The whole is so disposed that once the guide is in position, the butt fixes the direction of the stroke of the saw in the vertical plane whilst the guide that of the horizontal plane; moreover, the ring is so constructed as to allow the change of the protective gutter to enable it to act either to the right or to the left.

The author also introduces fenestrated laryngeal forceps, having the advantage of not hiding the field of operation while grasping neoplasms.



**Notes on the Treatment of Maxillary, Ethmoidal and Frontal Sinusitis—VACHER (Orleans).**

Empyema of the ethmoidal cells rarely exists alone. It is almost always associated with frontal or maxillary sinusitis. In a certain number of cases the sphenoidal sinus is also attacked.

Those patients can be divided in two classes: Those accepting the operation by the external incision and those who refuse all but the endo-nasal treatment. These last—mostly women—are the most numerous. I will only speak of this class. The narrower the nose the more difficult is the treatment of ethmoido-fronto maxillary empyema. The main point is to have good illumination, otherwise no serious surgical treatment can be attempted. Direct good frontal light; remove the inferior turbinated bone; remove the anterior portion of the middle turbinated bone with the chisel or Grünwald's forceps; cut without torsion, without tearing, to avoid future disorders and complications, towards the base of the skull.

Prudence and slowness are necessary; intervals between the sittings to allow the patient to recuperate from shock, the pain or the loss of blood. The middle meatus must be curetted, open each cell, remove the partitions with pliers. The end in view is to convert the cells into a cavity easily accessible for applications and frequent irrigations. If the frontal sinus is involved, sound and irrigate it, enlarge the opening as much as possible to modify the surface with caustic instillations. If the maxillary sinus is involved and the patient is unwilling to have it curetted by the canine fossa, it is necessary to transform that sinus into a cavity through the nose by removing the internal wall. I have constructed a beveled chisel which facilitates this operation. I first apply a tampon posteriorly to the corresponding nasal fossa and hold it in position by a metallic thread so that the instruments may not sever it during the operation. The opening in the nasal wall must be as large as possible to allow the curettage, the applications of zinc chloride and irrigations twice a day.

This method greatly relieves, if not cures, of their polysinusitis, those patients who decline the radical cure by the external operation.

**Pulmonary Emphysema caused by Experimental Nasal Insufficiency—COUSTEAU (Paris).**

We have proposed to find experimentally the part that nasal insufficiency plays in the production of pulmonary emphysema.

In young rabbits, by obliterating one naris and killing them seven months after, we notice on autopsy that the lung presents marked lesions of pulmonary emphysema. Whitish, elevated plates can be seen presenting here and there small, pin-head size transparent vesicles. The histological examination is still more conclusive; the alveolar walls are thinned and have even given way in certain places, thus forming lacunæ of differing sizes, according to the number of walls destroyed.

A similar result is obtained within twelve days in a rabbit when both nares have been obliterated.

We have thought it interesting to relate the result of these conclusive experiments. Attention is drawn to the importance of the thorough permeability of the nasal fossæ, in view of the rapidity with which pulmonary emphysema is produced when some obstacle determines a permanent, even though incomplete, stenosis.

*(To be continued.)*

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## THIRTEENTH INTERNATIONAL MEDICAL CONGRESS.

### SECTION OF OTOTOLOGY.

*Summary of Proceedings—Sessions of August 4, 1900.*

*(Proceedings Continued from page 293.)*

#### **Acoustic Exercises for Deaf-Mutes.**

DR. V. URBANTSCHITSCH (Vienna). The paper deals first with the importance of acoustic exercises in all cases for developing the sense of hearing, then treats of the methodical acoustic exercises for deaf-mutes. In a short historical review of the subject the excellent work of French authors is referred to, but the general neglect of the subject is lamented. In consequence of some remarkable results obtained by the author with methodical acoustic exercises in 1888, trials of the method were undertaken in Viennese schools for deaf-mutes. The author next describes the method of carrying out these exercises with very young children, then with children who are being taught to speak and to read.

Examination of the hearing-power of deaf-mutes shows that often considerable remnants of hearing-power (Hörreste) are present, so that complete bilateral deafness is a rarity. On the other hand,

comprehension of the sounds perceived is frequently absent; moreover, deaf-mutes show a remarkable lack of attention to sound-impressions. The object of methodical acoustic exercises is, therefore, (1) To awaken attention to acoustic impressions; (2) to build up "differential hearing;" (3) to increase acoustic excitability.

The author describes the application of the exercises to cases of very weak hearing-power and to the apparently totally deaf. Experience shows that even apparently totally deaf people ought to be tried. These exercises are not suitable for school children, on account of the great pains that must be taken and the time required.

The author then proceeds to answer several important questions:

1. What cases are suitable for methodical acoustic exercises? The exercises are always at first experimental, because the result cannot be foretold in any individual case. Success has been achieved even in deafness due to cerebro-spinal meningitis. The author is quite opposed to Bezold's view that all who cannot hear tuning-forks  $a^1$  to  $b^2$  should be passed over, for even in such cases he has had good results.

2. How long should the exercises be continued? The more difficulty there is in arousing perception of sound, the more are special exercises required; whereas, these may be limited or omitted whenever ordinary sounds are perceived or the deaf-mute can hear his own voice.

3. What are the results of acoustic exercises? The result of the exercises will vary with the nature and duration of the daily practice; with the amount of hearing already present, and with its capacity for development; with the intellectual condition of the patient, and with his interest in the exercises. In some cases in which hearing-power is apparently absolutely wanting, a trace of hearing may be awakened which is capable of further development. As a general rule acoustic exercises raise the hearing-power; thus a mere trace of hearing becomes a hearing of tones, this again a hearing of vowels, words and sentences. The capacity for development of each individual case cannot, however, be estimated; it varies even in a right and a left ear which at the start were functionally equal.

4. What is the practical worth of acoustic exercises? These exercises have a favorable influence on speech, on its hardness and its modulation, and also on the possibility of learning a dialect. As his hearing-power improves social intercourse becomes easier for the deaf-mute, and at the same time the difficulty of earning his living diminishes.



### Acoustic Exercises in the Education of Deaf-Mutes.

DR. SCHWENDT (Bale). 1. Remains of hearing-power must be taken advantage of when they are present in sufficient quantity. The patient should be able to hear vowels and a certain number of consonants. This corresponds to a hearing-power for  $la^3$  to  $la^4$ .

2. Education of the ear must not interfere with lip-reading.

3. To judge of the results of the method the semi-deaf ought to be separated—at least as an experiment—from the deaf-mutes.

### Microphonic Studies upon the Sound-Conducting Apparatus—

M. MADER (Munich).

The author reports the results of 757 experiments which he made by the help of an instrument of his own invention which he calls otomicrophonograph and of which he gives a description.

He has established the fact that although the tympanic membrane vibrates in its entirety, it acts differently according to the localities; that this membrane is, in its convexity, of such a structure as to permit the avoidance of loss of energy in the propagation of sounds; from which the following practical consequences: the explanation may be made of the differences of change in audition according to the location of perforations, and also of the marked diminution in audition in cases of depressed tympanic membranes.

He has verified the theory of Helmholtz, who finds a system of leverage in the ossicles; he does not believe that the stapes is oblique when vibrating. He has been able to determine that, as is generally thought, sound acts much more energetically upon the stapes when the tympanic membrane exists, but that the transmission by the cranial bones is much better when that membrane is missing.

The otomicrophone is particularly adapted to the experimental examination of cranial bones. With this instrument it may be easily demonstrated that these bones can vibrate, that their power of transmission is greater in proportion to the compactness of the bony mass. As a matter of fact, too little importance is attached to the transmission of sounds by way of the bones.

Moreover, sounds of equal intensity conduct high sounds better than low ones.

### Some Anatomical Details in Connection with the Etiology of

Bezold's Mastoiditis—A. A. GUYE (Amsterdam).

Why does pus burrow a path through the internal wall of the apophysis or through the external wall of its lower part? Is it

because it gives rise to a local caries of the bony wall or because it utilizes one or several preformed openings? It is probable that this latter is the rule. The persistence of the petro-squamous fissure has also been blamed in particular.

The author exhibits an interesting anatomical specimen in which the persistent fissure penetrates as far as the posterior portion of the bony canal, a fact which would explain the frequency of spontaneous perforation at this point in cases of mastoiditis.

The author is desirous of presenting another apophysis which he removed in the course of a Bezold's mastoiditis, which he details, and which is interesting in its structure. There can be seen, on one side, at the point, an open cell, and on the external surface two small vascular orifices which hardly permit a bristle to pass and which communicate with the open cell. It is then evidently by means of these two small openings that the pus escaped to form the abscess in the retro-maxillary fossa.

#### **Transparent Microscopic Preparations of the Organ of Hearing—**

Exhibited by M. KATZ (Berlin).

#### **On the Topography of the Bony Lesions in the Acute Mastoiditis of Adults—M. LOMBARD (Paris).**

Two principal anatomo-clinical forms of mastoiditis may be made out; they form without circumscribed abscess and then form with circumscribed or isolated abscesses.

The first form includes two varieties: diffuse cellulitis, which is uncommon; the cells contain a little turbid serum, and the purulent melting of the apophysis, a more advanced degree of the preceding.

The second form includes the abscesses of the first group, the abscesses of the point, the posterior abscesses and the antero-superior abscesses.

The author studies these varieties in detail and concludes that they are necessarily somewhat schematic and may coexist and be combined.

A therapeutic rule results from the totality of these circumstances: the entire cellular system of the apophysis should be systematically examined in the course of a trephining apparently the most ordinary. Classic authors give the excellent advice of following lesions of the apophysis after opening the antrum: this cannot be repeated too often, but these lesions must be looked for in a methodical way.

The clinical signs (pain, edema,) are insufficient and, at times, untrustworthy; they cannot always furnish information on the exact location of the lesions.

It may happen that an operator who has not much practice in aural surgery may permit a point of otitis to escape him when he strikes an antrum full of pus; as a matter of fact one is not called upon to look elsewhere for lesions at times independent of the principal focus.

Antrotomy constitutes the first step of the operation and the most important one. But in acute infections, with as much reason as in chronic infections, all is not done with the opening of the antrum.

Care and method should be taken to uncover the whole cellular system by removing the bony covering from the point to the base and exploring with care the parts which are known to be most frequently the seat of localized infections.

If, as a matter of fact, the cells are healthy, cure will not be delayed, and often the satisfaction of exposing a purulent focus may be enjoyed, such as neither clinical signs of the most minute search of the periantral region would cause to be suspected.

### **Recurring Double Auricular Hemorrhages in a Woman of Sixty-three Years—GROSSARD (Paris).**

Although the fact of menstruation by the ear is well known, the speaker has not found the report of a case analogous to the one he brings forward. The case is that of a woman, of sixty-three years who, having ceased to menstruate since ten years, had, as a result of a lively fit of contrariness, a biauricular hemorrhage. It lasted four hours, and the patient states that about two tablespoonfuls of blood ran out. Since that time, and despite appropriate treatment, the right ear has continued to bleed at intervals varying from six days to a month.

A few headaches, some vertigo, precede the otorrhagia, but the hearing is not changed, even while it is in progress. At the time the patient was examined she had no lesion of the middle ear nor was there a diminished hearing. She never had any nervous troubles, her menstruation was always normal; the latter ceased completely since ten years. She never had hemorrhoids, nor epistaxis, nor atheroma, the liver being normal.

The author regards these hemorrhages as due to neuropathic troubles.



**Neuroma of the Auricle—LANNOIS (Lyons).**

The author reports the case of a patient who, for two and a half years, had had a tumor behind the left auricle. It was painless and extended to the occipital bone, and, in another direction, formed a non-continuous streak along the sterno-cleido mastoid and even on the lower maxilla. Its removal was easily performed, and histologic examination showed it to be a neuroma. No tumor of this sort in that location has been described up to the present.

**On Othæmatoma—JONCHERAY (Angers).**

It is a complete review of the question. The author gives the history of othematoma from Hippocrates up to our day. He brings up the different theories which have been evoked by the etiology and pathogeny of this disease. He shows that there are spontaneous hematomas, very rare, having arisen without blows or apparent degeneration; traumatic, like those of wrestlers, and, finally, those hematomas, the most frequent, which embrace the majority of those observed in the insane and in which are found trauma and the predisposing lesion. Concerning a true case of spontaneous hematoma, the author gives the treatment which he employed and which resulted in a radical cure without the usual suppuration or deformity.

**Case of Otitic Pyemia—Recovery—ZAALBERG (Amsterdam).**

The author relates a case of otitic pyemia, of osteo-phlebitic origin (the dura mater and transverse sinus presenting no changes), with muscular metastases, which he observed in a subject of seventeen years; an operation on the mastoid and several operations on the purulent foci brought about the complete recovery of the patient.

*(To be continued.)*

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## LARYNGOLOGICAL SOCIETY OF LONDON.

FIFTY-NINTH ORDINARY MEETING, JUNE 1, 1900.

F. DE HAVILLAND HALL, M.D., President, in the Chair.

DR. W. A. AIKIN then read a paper on "The Resonators of the Voice."

The following cases and specimens were shown:

### **A Case of Primary Sarcoma of the Tonsil in a Woman *Æt.* 58; Successful Extirpation Through the Mouth.**

Shown by DR. WALKER DOWNIE. The patient, a woman, *æt.* fifty-eight, was seen by me on the 17th of August, 1899, when she complained of a swelling of her right tonsil, which had been slowly increasing in size since the beginning of that year.

Early in January she had first experienced a sense of fulness and discomfort in her throat, particularly on swallowing. It came on without apparent cause, and at first gave her no concern. But as the discomfort persisted, she used various simple astringent gargles without benefit. In March she consulted a doctor, who informed her that the tonsil was inflamed and ulcerated, and he prescribed an astringent solution to be painted over the tonsil. The tonsil at this time was evidently enlarged; there was no sharp pain, but a sense of slight difficulty on swallowing. She continued to apply the astringent referred to till June. During those three months she not only felt no local improvement, but was convinced that the affected tonsil was slowly increasing in size; and also she felt that she was losing flesh, and was becoming so weak generally that she was quite unable to perform her ordinary household duties.

In June she consulted another doctor, who proposed to excise the affected tonsil, but on her return two weeks later to have this done, the tonsil was found to have so increased in size in that interval that he deferred operation.

She called on me with a note from her doctor on August 17th, by which time there was no doubt as to the nature of the new growth.

Her temperature was normal. She appeared to be in moderately good health, though complaining of weakness and exhaustion on slight exertion. Her speech was somewhat thick, and she complained of pains shooting up from the right side of the throat to the right ear. She could swallow with comparative ease.

On examination through the mouth a tumor occupying the position of the right tonsil was seen somewhat resembling an hypertrophied tonsil. It was nearly the size of an average walnut; it had the form of an enlarged tonsil, was of a deep red color, with several greyish patches of superficial erosion distributed over its surface. It was firm to the touch, non-fluctuant, and palpation caused no pain. The faucial pillars were not adherent to the tumor, which was as a consequence freely movable; and the lymphatics in the neighborhood were unaffected.

On 23d of August she was placed under chloroform, and with the mouth widely opened the new growth was enucleated by means of the finger nail and scissors. Firm pressure over the raw surfaces checked what bleeding there was. Ice was given frequently for the first few hours after operation, and thereafter small doses of dilute hydrochloric acid several times daily until the parts were healed.

The report on the microscopic examination of the tumor by Dr. A. R. Ferguson was as follows: "The cells are large, uninuclear, and spindle-shaped, with in addition numerous very irregular large rounded cells. An infiltration of the remaining tonsillar tissues with these cells singly or in small groups is also observed."

It is now nine months since the operation. There is no trace of the former growth, nor of the operation performed for its removal. There is no recurrence, and the patient is in excellent health.

#### **Case of Perichondritis of the Larynx, Following the Introduction or the Retention of a Tube in the Esophagus.**

Shown by MR. BUTLIN. A man, æt. twenty-nine, who was suffering from the typical symptoms of primary dilatation of the esophagus, was admitted into St. Bartholomew's Hospital on the 3d of January of the present year. He was losing flesh and suffered severely from cough, which appeared to be due to the arrest and retention of food in the esophagus. Mr. Butlin determined to treat him by the retention of a vulcanized India rubber tube, so that he might be fed through the tube for a couple of months. The tube was introduced into the stomach with very little difficulty, and he was fed through it until the 28th of January, when he went home, still wearing the tube. He was at that time much better, did not bring up any food, and had almost entirely lost his cough.

On the 18th of February he was seized with a violent fit of coughing, during which the tube was ejected. He at once came to the hospital, when the tube was replaced without any apparent difficulty by the house surgeon.

On the morning of February 19th he awoke with difficulty of breathing, and coughed severely, when the tube was again displaced.



It was not put back, but his difficulty of breathing increased until February 23d, when he came back to the hospital and was admitted.

During the first few days he rapidly improved. On the 1st of March an attempt was made to introduce a soft tube, but he was seized with dyspnea and the attempt was desisted from.

On the following day, March 2d, his breathing was so bad that tracheotomy was performed.

On his admission to the hospital the posterior parts of the larynx were extremely swollen, red and edematous, and the interior of the larynx was in the same condition. His voice was extinct, and he suffered from slight difficulty in swallowing. The appearances were those of perichondritis of the larynx.

At the present time he is still suffering from the appearances of general perichondritis of the larynx, but especially of the back part, and the tracheotomy tube has to be permanently worn. It is proposed to open the larynx and examine the condition of the cartilages, with a view to the removal of necrosed or carious portions.

### **Case of Radical Operation for Nasal Polypi.**

Shown by MR. C. A. PARKER. A male, æt. thirty, was first seen seven years ago suffering from polypi, with suppuration apparently from the ethmoidal cells in both nostrils.

The polypi were carefully removed by means of a snare, and after six months' constant treatment, consisting of trimming up and using the cautery, the case was for the time being apparently cured. This was in February, 1893. In April, 1894, polypi had recurred, and another course of treatment was resorted to again with favorable results. The patient, however, again came under treatment in 1897-98, and again with benefit. In October, 1899, the patient was as bad as ever, so on November 21st an anesthetic was administered, and the polypi, the middle turbinate and the ethmoidal cells were all thoroughly removed. The patient made a rapid recovery from the operation without any unpleasant symptoms.

He states that he has been far more comfortable since the last and radical operation than he has been for nearly ten years past, and is himself quite pleased with the result.

At the present time no sign of polypoid formation can be seen. On the right side there was an adhesion between the outer and inner wall, which a fortnight ago I attempted, not very successfully, to remove. It rather hides the view of the upper parts.

The patient, in writing to me, says the symptoms which used to trouble him most were: Thickness of speech, obstruction of the nose, violent sneezing, especially in the morning; frequent sore

throats and occasionally quinsy, loss of the sense of smell. He adds: "The first four seem quite cured, and I am gradually regaining the sense of smell."

DR. LAMBERT LACK said that the essentials of the operation were to give a general anesthetic, such as ether or chloroform, and then to remove not only all polypi, but as much of the ethmoid bone as was possible. With a large ring knife, such as Meyer's original adenoid curette, he broke up the ethmoidal cells and removed the middle turbinate, and in some cases the greater part of the ethmoid bone. The scraping was continued until all loose-friable bone was removed and healthy bone was reached. The latter was easily recognized by its firmness both to the knife and finger. If this were thoroughly done, recurrence of polypi might be prevented even in the worst cases. He had never seen this operation advocated or performed by others; the curetting so often spoken of was essentially different, consisting, as it did, of repeated small scrapings.

MR. BABER asked how Dr. Lack managed to avoid wounding the cribriform plate, and also whether he was liable to make an opening into the orbit. A very thorough removal of bone had been advocated by Grünwald with forceps and curette.

MR. BUTLIN hoped Dr. Lack would not recommend the operation on a very large scale, because he was sure awkward accidents would occur if it was used extensively. The distance between the base of the brain and the ethmoidal sinuses was so short that even a jerk of the forceps might perforate the ethmoidal plate.

THE PRESIDENT was glad to hear these words of caution. In inexperienced hands there would be great danger of setting up septic meningitis. The operation certainly ought to be confined to men with large experience of the operative procedure; it was not an operation to be recommended as a generality for practitioners, especially beginners.

DR. LAMBERT LACK thought he might add that the danger was far more apparent than real. He had operated now for six years, during which period he had done the operation in more than sixty cases; he had in many cases used considerable force, but had never any ill-results. In some cases he had removed a large portion of the inner wall of the orbit, and had exposed the periosteum in this region, but without producing any ill-effect beyond a temporary black eye. He thought that with care the cribriform plate was not endangered.

### **Case of Chronic Frontal Sinus Empyema Cured by Radical External Operation.**

Shown by DR. HERBERT TILLEY. A female, æt. forty-nine, on whom this operation had been performed. The symptoms of headache, nasal obstruction and purulent discharge had lasted for five years. The left antrum also discharged pus. The patient had been in the hospital exactly three weeks. Since the antrum had

been drained and irrigated through the alveolus the discharge had much diminished, and if it did not entirely cease in the course of a few weeks, he thought it would be wise to advise a radical operation upon the antrum.

#### **Case of Double Frontal Sinus and Antral Empyema with Great Distension of Bridge of Nose.**

Shown by DR. HERBERT TILLEY. A young man, æt. eighteen, presenting symptoms of multiple sinusitis. It was quite easy to irrigate the frontal sinuses and wash out a quantity of pus. Both antra were being irrigated and drained. The nostrils had been cleared of polypi, and a considerable portion of the diseased ethmoids had also been removed. Dr. Tilley proposed operating on the frontal sinuses in the course of a few days. The interesting feature in the lad's appearance was the great broadening of the nose, which was probably an evidence of chronic ethmoidal inflammation.

#### **Case of Laryngeal Occlusion in Typhoid Fever.**

Shown by MR. WAGGETT. A man of thirty, in whom tracheotomy had been performed some two months ago during typhoid fever. The larynx though pale was tumified throughout with the exception of the epiglottis. The cords remained fixed in apposition, and were partly concealed by the ventricular bands. In the region of either vocal process was an eminence, presumably a granulation, the size of half a pea. These no doubt pointed to the presence of ulceration in this the typical region, but the actual seat of ulcer was hidden by the conformation of the parts. The whole of the posterior cricoid region was in a state of voluminous pale edema. Probing at the seat of ulcer had failed to detect a fistula leading to the cricoid cartilage. Assuming that necrosis of the cartilage was present, was it advisable to cut down and remove the sequestrum, as would be done in any other part of the body?

The PRESIDENT asked Mr. Waggett if it was a case of so-called secondary affection of the larynx, or whether the laryngeal affection was primary. He could only recollect one case of complication of the larynx in typhoid fever; it was certainly rare in this country. It was that of a man with supposed acute laryngitis, but of a different type to that he was accustomed to see. There was high temperature and a good deal of pain. The diagnosis was cleared up in a few days, the man developing typical enteric fever. It seemed as if the larynx were primarily affected, the abdominal symptoms occurring later.

DR. CLIFFORD BEALE said the question of laryngeal ulceration in typhoid fever had been discussed at the society some three years



ago, and since then he had taken every opportunity that offered itself—and these were fairly numerous—of examining the larynx in cases of typhoid fever where hoarseness was present. He had not been able to detect anything in the way of ulceration either of the epiglottis or within the larynx itself; the general condition was one of simple, general congestion. In one case, however, there had been decided swelling of the epiglottis. He remembered on the occasion of the former discussion that Mr. Bowlby gave the society the experience he had gained from *post-mortem* examinations at St. Bartholomew's Hospital to the effect that laryngeal ulceration was outside his experience. Personally, he could not help thinking that laryngeal ulceration was a very uncommon complication of typhoid fever in this country.

DR. JOBSON HORNE inquired whether it was possible to state how soon after the occurrence of typhoid the laryngeal lesion developed, and also whether the patient had been subject to any infection other than that of typhoid.

MR. WAGGETT said, in reply to Dr. Horne's questions, he would not be certain when the laryngeal occlusion commenced, because the patient did not come to the hospital till late; nor did he obtain a definite clinical history. He was inclined to think it was rather late in showing itself. Remembering Dr. Horne's remarks at a previous meeting, he had inquired into the question of possible tuberculosis in this patient, but had found no evidence of it; the sputa contained no tubercle bacilli. He wished for the opinion of members as to the cause of the great amount of edema on the back of the cricoid. There was no doubt in his mind that the man had inter-arytenoid ulceration. He had been in hopes of finding that it represented the orifice of a fistula, and that a probe on insertion would come upon necrosed cartilage. The probe had failed to find any fistula, but should necrosis be subsequently proved, would it not be well to remove a sequestrum after thyrotomy before the larynx was permanently ruined?

DR. DUNDAS GRANT said if the evidence of necrosis were fairly complete it would be a good operation to do a thyrotomy, and remove the sequestrum from the front.

**Female Patient, æt. Forty-nine, from whom the Larynx had been Completely Removed on Account of Sarcoma.**

Shown by DR. DUNDAS GRANT. This was a patient the preparation of whose larynx was shown to the society on April 7, 1900, and the history of the case will be found in the proceedings of that meeting. I performed the operation on March 3d. She underwent with great cheerfulness and courage a long and somewhat tedious course of after-treatment, involving feeding by means of a tube. The wound in the neck was plugged at first with iodoform gauze, then with gauze moistened with red wash; now there remains only an elliptical slit, about half an inch in length, below the hyoid bone; by pinching the sides of this together with her fingers, the pa-

tient is able to consume liquid food of any kind. There is no sign of recurrence either locally or in other parts of the body, and the question now arises as to whether it is most desirable to revive the edges of the opening and effect its complete closure, or to allow it to contract at its present slow rate, leaving the aperture for the introduction of an artificial larynx. The opinion of the members on this point will be gladly received.

DR. LAMBERT LACK suggested that most of such patients were more comfortable with the fistula wholly closed. It could easily be done by some small plastic operation.

#### **Case of Tonsillar Ulceration of Uncertain Origin (Specific).**

Shown by DR. DUNDAS GRANT. This patient was brought before the society on April 7th. There was some uncertainty in regard to the possibility of the case being one of epithelioma. A provisional diagnosis was made of a primary infection of the left tonsil with secondary mucus patches on both.

Since the last occasion on which she was brought before the notice of the society, she has been treated by means of mercurial inunctions, at first at home, and latterly in hospital, with the result that the circinate edges have entirely lost their opalescence and their everted character, and although the left tonsil is still swollen it is quite soft, and the floor of the depression corresponding to the excavated ulcer has acquired the tint and smoothness of the surface of the normal tonsil.

#### **Case of Inter-Cordal Tumor (Tubercular) of the Larynx in an Elderly Man.**

Shown by DR. DUNDAS GRANT. John S. came under my care May 3, 1900, complaining of hoarseness and loss of voice of four months' duration. About Christmas time he was attacked with "cold in the chest," which disappeared, but the hoarseness and aphonia remained unchanged. On inspection there is seen on the anterior part of the larynx, a pale, granular, irregular surfaced growth, which is bilobate, the upper part being rather the smaller, and lying between the vocal cords, the larger and lower half lying below them. The growth appears to spring from the middle line anteriorly. There is a swelling on the right carotid artery; it is impossible to detach it from that vessel.

At the last meeting, May 4th, when this patient was seen, the nature of the growth was considered extremely doubtful, and it was generally agreed that there was a great probability of its being epitheliomatous, and the question of removing it by thyrotomy was discussed, subject to microscopical confirmation as to its nature.

The growth appeared to originate at the anterior commissure. I endeavored to remove it by means of a snare, but with this instrument I only detached a very small portion of it, and I then, without much expectation, tried my own forceps of the form opening from side to side. By means of the late McNeil Whistler's forceps, however, I succeeded in removing a large mass presenting the outward appearance of papilloma, which I hand round, and a portion of which was submitted to Mr. Wingrave for microscopical examination. He reported it to consist chiefly of small round-cells interspersed with fibrous tissue, but containing very well marked giant-cells, the whole being fairly typical of tubercle. On staining a section for bacilli a confirmatory result was obtained. It is evident, therefore, that we have to deal with a tuberculous tumor, although the pulmonary evidences are almost negative; there is, however, a suspicious comparative diminution of resonance on percussion at the right apex. The sputum has, from an oversight, not been examined for bacilli, but the diagnosis seems to be sufficiently certain. On laryngoscopic examination it will be found that the growth had its origin not merely in the anterior commissure, but also on the anterior fourth of the edge of the right vocal cord. The larynx is now being submitted to daily applications of lactic acid in from 40 to 60 per cent solution, and some improvement has taken place.

#### **Case of Carcinoma Laryngis.**

Shown by MR. WAGGETT. The patient is a man, æt. sixty, with a large carcinomatous mass involving the epiglottis. The voice is deep and hoarse; the glottis is not to be seen. There is no glandular enlargement. The base of the tongue appears to be slightly involved. As radical operation seemed impossible was it advisable, on account of the dysphagia present, to remove the epiglottic mass with the hot snare, or merely to perform tracheotomy?

MR. BUTLIN did not think the radical operation would do good. He would not do anything if the case were under his care.

#### **Case Showing the Orifice of the Sphenoidal Sinus.**

Shown by MR. WAGGETT. The patient was a man, æt. forty, in the last stage of atrophic rhinitis, in whom the orifice of the left sphenoidal sinus could be very beautifully seen, and the dimensions of the cavity could be made out with the probe.

MR. WAGGETT ventured to bring the case before the notice of the society in view of the discussion which arose about certain crypts in the naso-pharynx at a previous meeting, and in order to demonstrate that the sphenoidal sinus opening is a long way in front of



the post-nasal space. One was liable to think that it was at the top of the post-nasal space; as a matter of fact the osteum was at the anterior end of the sinus; this was very well exemplified in his case.

**Case of a Male, æt. Twenty, with Distension of the Maxillary Antrum.**

Shown by DR. LAMBERT LACK. This patient was sent to me by Mr. J. G. Turner, who also conducted the transillumination of the antrum. He presents the following points of interest: The upper wall of the left antrum is pushed upwards, can be felt bulging into the orbit, and the left eyeball is at a higher level than its fellow. The inner wall of the antrum is bulging into the nose, and the nasal fossa is partially obstructed. There is a nasal polypus in the opposite nostril. The other walls of the antrum appear normal. There is no trace of pus in the nose. Both antra are equally translucent on transillumination. There was no pus on puncturing and irrigating the antrum. The cavity was, therefore, opened freely from the canine fossa and found to be filled up with ordinary mucous polypi. These were removed, and part of the antro-meatal septum cut away. The antrum distension is now apparently subsiding. The case is of a diagnostic interest, as the presence of antral distension combined with translucency led to a confident diagnosis of cyst or hydrops of the antrum.

DR. DUNDAS GRANT thought it a very important addition to the knowledge of transillumination that a mass of polypi was translucent, because hitherto it had been generally believed that only a cyst could distend the antrum and at the same time be translucent.

MR. CRESSWELL BABER asked whether a strong or rather weak light was used in transilluminating; by using a weak light and graduating its strength, one could often see a difference between the two sides, which was otherwise undetected.

DR. LAMBERT LACK, in reply, said that the light used was a strong one, but that there was absolutely no difference between the two sides.

**Case of a Child, æt. Three, with a Cyst at Base of Tongue.**

Shown by DR. FITZGERALD POWELL. This child was brought to the hospital by his parents, who stated that he had a lump in his throat.

Three months ago they noticed that he had some difficulty in swallowing, and on looking into his mouth saw that he had a lump far back on the tongue. It was then about the size of a large hazel nut, and appeared to fill up the throat. They say the lump was much larger, but that it burst, remaining small for a fortnight, and then filling up again.

When seen by me the first time the lump was very small, and was situated on the dorsum of the tongue, about the position of the "foramen cecum." It has continued to fill up and burst, when the tissue covering it gets thin and transparent. Latterly it does not get so large, and does not appear to give rise to inconvenience.

MR. BUTLIN believed the case to be one of cystic dilatation of the glossal portion of the thyro-glossal duct. He had seen cases of mixed cystic and solid growth in that situation, and had described two cases in the Clinical Transactions some years ago. But, he had never seen the pure cystic form. In the new addition of "The Diseases of the Tongue," Mr. Spencer had collected accounts of cases of that kind. The cysts are generally lined with ciliated cylindrical epithelium, and the wall contains a little thyroid gland tissue. Hemorrhage appears to be a common occurrence in connection with them. He believed that in this case, the best treatment would be to cut the cyst away with a galvano-cautery loop under an anesthetic, and to cauterize the depression of the foramen cecum freely.

#### **Case of Pedunculated Tonsil.**

DR. HERBERT TILLEY showed a woman, æt. forty-three, in whom the left tonsil, or a large portion of the same, was attached by a pedicle, which caused the patient to complain of what seemed to her a foreign body in the throat. The pedicle seemed to originate in the upper part of the tonsil, and possibly grew from the region of the supra-tonsillar fossa. The exhibitor considered it consisted of tonsil substance and was not a papilloma, and he based his belief on the ground that the left tonsil, which was broad and flat, was undergoing a similar kind of change, *i. e.*, the free portion consisted of an association of small pedunculated masses. The right tonsil will be submitted to microscopic examination, and reported upon at the next meeting.

The PRESIDENT thought that on the right side it was a papilloma rather than a pedunculated tonsil. It seemed to him a new growth. He supposed the question could be easily settled by removal of a piece of the growth for microscopical examination.

MR. WAGGETT had seen a similar case, but it was not such a beautiful specimen; the tissue proved microscopically to be tonsil tissue.

DR. FITZGERALD POWELL thought the growth was a papilloma. Its origin was from the "supra-tonsillar fossa," from which it grew by a narrow pedicle, hanging down in front of the tonsil. It certainly had the appearance of a papilloma. One frequently saw small papilloma growing from about the tonsil and soft palate, and he thought this was of the same character, only, of course, much exaggerated in size.

DR. JOHNSON HORNE thought the left tonsil had more of the appearance of a papilloma than the right, but that the histological structure of a papilloma would be met with in neither.

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**The Roentgen Rays in Diseases of the Nose, Throat and Neighboring Organs.** JOHN MACINTYRE. *Journ. of Laryngol.*, July, 1900.

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- Consanguinous Marriage and Deaf-Mutism.** ALFRED H. HUTH. *London Lancet*, February 10, 1900.
- Catarrh.** O. F. BAERENS. *Wisconsin Med. Rec.*, March, 1900.
- Taking Cold.** G. V. WOOLEN (Indianapolis). *N. Y. Med. Journ.*, January 13, 1900.
- Some Remarks on Diseases of the Eye, Ear, Nose and Throat in the Negro.** E. C. ELLETT. *Memphis Lancet*, January, 1900.
- Report of a Case of Restored Speech and Hearing Due to a Fall from a Height.** *Penn. Med. Journ.*, August, 1900.
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- A Brief Inquiry Into the Treatment of Hay Fever.** E. HAUKE. *New Eng. Med. Journ.*, August, 1900.
- The Annual Address of the President of the American Laryngological Association.** S. JOHNSON. *N. Y. Med. Journ.*, August, 1900.
- Some Observations on the Vital Statistics of Ontario for 1898.** J. J. CASSIDY. *Canadian Journ. of Med. and Surg.*, April, 1900.
- Measles—Value of Koplik's Sign.** J. S. LANKFORD (San Antonio). *Texas Med. News*, April, 1900.
- Some Critical and Desultory Remarks on Recent Laryngological and Rhinological Literature.** JONATHAN WRIGHT (Brooklyn). *N. Y. Med. Journ.*, April 1, 1900.
- The Inoculation Wound of Lues.** CHAS. W. ALLEN. *Med. Record*, March 17, 1900.
- The Degenerative Results of Deficient Ventilation.** CHAS. DENNISON (Denver). *Paper Amer. Climatolog. Assn.*, May, 1900.
- Notes from the Clinics.** ST. J. ROSSA and MOORE. *Post-Graduate Journ.*, June, 1900.

## BOOK REVIEWS.

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**Ballenger & Wipperrn on the Eye, Ear, Nose and Throat.** A pocket text-book of diseases of the eye, ear, nose and throat, for students and practitioners. By WILLIAM L. BALLENGER, M.D., assistant professor of otology, rhinology and laryngology in the College of Physicians and Surgeons, Chicago, etc., and A. G. WIPPERN, M.D., professor of ophthalmology and otology in the Chicago Eye, Ear, Nose and Throat College. In one handsome 12mo volume of 525 pages, with 150 engravings and six full-page colored plates. Cloth, \$2.00, net; flexible red leather, \$2.50, net. Lea Brothers & Co., publishers, Philadelphia and New York.

This volume seems to occupy the position of a happy medium between the voluminous text-book and work of reference in laryngology and otology on the one hand and the small compend in this field on the other. Perhaps its best qualification would be as a comprehensive text-book in ophthalmology, otology, rhinology and laryngology. It is a thoroughly practical volume, abundantly illustrated, terse in style, and above all the authors have shown excellent judgment in the selection of their subject matter.

The volume is not incumbered by unnecessary data or literary references, and is especially adapted to the requirements of the under-graduate, general practitioner and recent post-graduate in medicine. Even to the special practitioner it may frequently be found particularly convenient for quick reference. G.

**Rhinology, Laryngology and Otology and Their Significance in General Medicine.** By E. P. FRIEDRICH, M.D., Privatdocent at the University of Leipzig, Authorized Translation from the German. Edited by H. HOLBROOK CURTIS, M.D., Consulting Surgeon to the New York Nose and Throat Hospital and to the Diphtheria and Scarlet Fever Hospitals. W. B. Saunders & Co., Philadelphia and London, 1900. Price, \$2.50.

In the issue of May, 1899, p. 336, THE LARYNGOSCOPE published an extensive review of this volume as it first appeared in the German language.

As stated by the author in his preface, this work has been written "for the purpose of keeping the specialist in closer touch with general medicine, to break down the barriers which tend to form between special and general practice and to remind the specialist that his field of work is a part of the whole medical structure and not a thing separate and apart by itself."

Under the able editorship of Dr. Holbrook Curtis and the energy of the publishers, W. B. Saunders & Co., this excellent volume has been translated into English and thus become accessible to the American and English members of the profession. The volume is based on the broadest principles and is so comprehensive in character that it should be widely read by the general practitioner and specialist alike. Both the translator and publishers are to be highly complimented for their energies and good judgment in making this excellent publication accessible to us all. G.

# THE LARYNGOSCOPE.

VOL. IX. ST. LOUIS, MO., DECEMBER, 1900.

No. 6.

## ORIGINAL COMMUNICATIONS.

(Original communications are received with the understanding)  
(that they are contributed exclusively to THE LARYNGOSCOPE.)

### DENTIGENOUS CYSTS.\*

BY FREDERIC C. COBB, M.D., BOSTON, MASS.

It may seem a strange thing to members of this association that dentigenous cysts, a topic more of dental than laryngological interest, should be chosen as the subject of this paper.

My reason for bringing the matter before you is that the diagnosis between cysts of the upper jaw and antral empyema, or antral tumors, is often obscure, especially in the minds of the general practitioner or dentist. The patient afflicted with a dentigenous cyst presents, on the affected side, an upper jaw distended and hard as bone. The location of the swelling is usually the side of the nose about the region of the ala, sometimes extending along the border of the nasal bones toward the eye. Examination of the nostril often, but not invariably, reveals a bulging of the outer wall of the vestibule inwards and upwards. The roof of the mouth may also be pushed downwards and inwards over a circumscribed portion of its area.

On lifting the upper lip the teeth of the upper jaw, or some of them, show a diseased condition and a pronounced swelling is generally to be noted in the alveolus.

This swelling of the alveolus may be firm or soft; firm where the bone still exists, soft where it has been absorbed by the ever-increasing pressure of the cyst.

Sometimes a sinus can be made out running upwards into the swelling, but more often none is seen. The tumor may even cover the roots of several teeth and obliterate the canine fossa, but

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\* Read before the sixth annual meeting of the American Laryngological, Rhinological and Otological Society, Philadelphia, June, 1900.



whether large or small it is, in my experience, invariably present. If the swelling be punctured the contents of the cyst will be found to be a thin, reddish or coffee-colored serum, as a rule, sometimes more or less yellow, but rarely resembling pus. The symptoms usually are slow swelling of the face without suffering, except, perhaps, slight dental pain in or about the tooth roots.

Patients rarely present themselves until some weeks or months after the appearance of the swelling, a fact which shows how slight are the discomforts experienced. There is no history of nasal discharge, and transillumination by the electric lamp in the mouth shows ordinarily an equal amount of light directly under both orbits, but on the sound side the transmission of light below the orbit is better than on the affected side. If a trocar and canula be inserted into the tumor a clear or chocolate-colored fluid follows the withdrawal of the trocar, and if the canula be connected with a syringe, fluid pumped into the cyst will return around the edge of the canula and not, as in the case of the antrum, pass out through the nostril. It was objected in one of my cases by the dentist that this proof was not conclusive, as the antral opening into the nose might be obstructed, so that what I believed was a cyst might still be antral dilatation. To clear up the objection, after water had been pumped through the canula and had passed out around it, the trocar was again inserted into the canula and it was pushed upward toward the roof of the cavity. The distance was carefully measured to the orbit on the outside, and it was ascertained that the point of the canula was some distance from it.

The trocar was then made to pierce the roof of the cyst and was withdrawn, leaving the canula in situ. Water injected through the canula at once passed out of the nose, showing that the roof of the cyst corresponded to the floor of the antrum, which had been pressed upward by the cyst. In some cases the withdrawal of the diseased tooth allows a probe to enter the cavity, and comparison between the length of the probe inserted and the internal distance from the alveolus to the orbit determines the size of the cyst and its difference from the antrum. The evacuation of the fluid contents of the cyst makes a marked change in the appearance of the face, for as the lower part of the cyst collapses on puncture, it leaves a sharp, bony projection above, which feels to the finger almost like a dislocated nasal bone. Experience tends to show that after evacuation of the contents of these cysts, if free drainage be kept up, the bony projection tends to become less prominent, owing probably to absorption of the bony walls.

Whether this always occurs is, of course, a most important question, since, if such a retrograde process does not take place, some operation for the reduction of the deformity should be performed. With regard to the pathology of these cysts, I have not been able to get any very satisfactory explanation. In a paper read by Albarran before the Paris anatomical society, he comes to the conclusion that these growths are developed from the epithelial debris surrounding the teeth in the gubernaculum dentis or from those contained in the walls of the second teeth.

Baker\* describes a case which he calls cystic, but which had acute symptoms and was filled with pus, thereby excluding it from the catalogue of pure cysts.

Heath† describes two kinds of dentigenous cysts, one due to the retention of unerupted teeth in the substance of the jaw and the other to inflammatory changes in the root membrane of an already completely erupted tooth.

In the first variety the tumor, of course, contains the tooth; in the second it does not.

The cases which I have to report were of the second class, since they contained no tooth. From a surgical standpoint, the important question to be considered is the condition of the tooth or teeth entering the cyst. The care of these should be intrusted to a first-rate dentist, and if diseased they should be removed. After extraction of the diseased teeth, the bony opening into the cyst should be packed until it begins to granulate well, when the gauze should be removed carefully and the edges of the opening allowed to cicatrize so as to leave an exit for the secretion. I shall give a short history of a few of the cases to make clearer the clinical picture of the disease.

*Case I.*—Mrs. J. F. F., age thirty-seven, noticed a gradual swelling of the left side of the face, greatest about the region of the ala and below the upper lip, but extending upward along the nose. Character of swelling hard, painless, normal in color, subject to alternate increase and decrease in size; duration six months. There was no nasal discharge. Puncture evacuated a thin reddish serum and at once decreased the lower part of the swelling, leaving a sharply defined bony prominence above, which gave the impression of a dislocated nasal bone. She was referred for examination of the teeth and treatment to Dr. Hardy, who kindly sent me a report that the "molar and canine were alive and the lateral crowned but root well

\*Transactions of the Royal Academy of Medicine, Ireland, 1891.

†P. 367. Heath: "Injuries and Diseases of the Jaws."

filled and sweet." He opened the cyst again and drained forty-eight hours and washed with Seiler's tablets for three weeks to keep the opening patent. Nearly three months later she was seen by me and all signs of bony swelling had disappeared, although the cyst remained open and a probe still passed in to a short distance. It gave her no discomfort and did not discharge. The interesting point to me in this case was that so large a bony projection could subside entirely in so short a time as three months.

*Case II.*—B. R., age seven, entered the Massachusetts Hospital with a hard swelling of right side of face, duration three months, extending upward along the nose toward the inner angle of the eye and downward, filling the canine fossa. The eye tooth was loose and in the most prominent part of the swelling. He was etherized and Dr. Algernon Coolidge opened the cyst and, finding that the condition of the teeth entering it was bad, removed the lateral and canine. In the case of the canine a thin layer of bone around its middle only remained while its root for one-quarter of an inch moved about freely in the cavity. The swelling of the face, as in the previous case, was almost entirely without pain. The boy disappeared after a few days, but was seen two years and five months later, and his history is that after operation the swelling had gradually diminished until in a few weeks no sign remained. He has now a regular set of teeth, none missing, the only result of the old trouble being a slightly deviated incisor.

*Case III.*—Alice G. entered Massachusetts Hospital for a growth on her upper jaw presenting the usual appearance described in the preceding cases. The cyst was opened in Out Patients' Department and a straw-colored fluid evacuated. It was more difficult in this case to keep the orifice open, owing to the fact that the patient lived at a distance. Nevertheless, the cyst began to diminish, and in three months had almost disappeared. The dentist, who saw this case later, told her that the origin of her trouble dated back to the killing of the nerve of the canine tooth by a former practitioner who neglected to remove the dead nerve, which of course suppurated. The onset of the swelling indeed corresponded accurately with the date of the treatment of the canine tooth.

*Case IV.*—Mrs. M. B., age fifty-nine, entered the Massachusetts General Hospital with a very large facial swelling, in location corresponding to the preceding, extending below the upper lip from the left antral incisor to the first bicuspid. A trocar passed through the lower nasal meatus entered the cyst, showing how far it had raised the floor of the antrum. The cyst was opened, packed and



treated in this way for a long time without great improvement. Then the patient was sent to Dr. Edward Briggs, who removed the root of the incisor tooth onto which a pin holding a false tooth had been fastened. After drilling the hole for this pin a dentist had inserted a little wire obliquely so that its end made a foreign body in the alveolus. This was removed and the root itself taken out, cleaned and replaced and the pulp cavity of a neighboring dead tooth treated and the cyst at once began to improve. This case is interesting as showing that unless diseased conditions of the teeth are cured, surgical procedures alone are of no avail.

*Case V.*—D. H., male, age twenty-two, had noticed two months before a swelling of the upper jaw opposite first molar tooth, which was evacuated by a surgeon. It soon filled, however, and the patient was sent to the Throat Department for diagnosis and treatment. The swelling extended below the upper lip from the canine to the wisdom teeth. It was hard above, elastic below and the teeth corresponding to the swelling were badly diseased. He was sent to a dentist, who removed the two molars, and the condition subsided quite rapidly. Thirteen months later there was no return of the old condition.

*Case VI.*—Lillian N., swelling as described in preceding cases, hard and painful since it was lanced, which occurred about a month before entering the hospital. Cyst contents, as in preceding cases, was a clear fluid stained with blood.

The cyst, apparently, has been subject to great variations within the last two years, coming and going, as she expresses it, and usually lasting but a short time. Dr. Briggs' report on this case was: "Canine dark colored, does not respond to cold, gums over tooth show remains of probable fistula cicatrix, the pulp probably dead."

*Case VII.*—Calista T., age sixty-two, entered the hospital with the characteristic nasal and canine swelling, which had appeared painlessly twelve months before. No distinct connection with the teeth could be traced, since those connected with the cyst had been removed before her admission to the hospital. The cyst was opened and the orifice plugged for two weeks, when she was allowed to return home. She reports one year later that the swelling entirely disappeared shortly after reaching home.

*Case VIII.*—I should, perhaps, not report this case, since it is too recent to add to the value of the prognosis. It shows clearly the dental etiology and I shall report it briefly on that account:

Harry L., age seven, had slight toothache three months ago, followed by a hard non-sensitive, painless swelling, extending along

left nasal bone to the orbit. He had recently had a first bicuspid below the tumor removed the roots of which were badly decayed.

There was a small sinus at the site of removal of the tooth. The cyst was opened May 19th, but the bony deformity remained. A probe entered almost to the orbit; the opening is still packed every second day.

In this case the bony deformity will probably disappear, as it has in those cases hitherto cited.

From a careful study of these cases I am led to believe that the cyst is not, as Albarran suggested, due to epithelial secretion from the cells of the gubernaculum dentis, but rather that, as Dr. Edward Briggs believes, an inflammatory process originating about the diseased teeth, which is characterized more by excessive secretion than by active destruction.

To me the prognosis is also of great interest, since I could not have believed that so great a bony swelling could subside in so short a time as two or three months. Many of these cases were referred to us for diagnosis from antral disease and with a view to operation.

In the light of this series of cases antral disease can be eliminated and operation avoided.

The salient points are free drainage and careful dental treatment.

My best thanks are due to Dr. Coolidge for permission to report cases occurring in his clinic and to Drs. Briggs and Hardy for their careful report and examinations.

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## NOTES ON TURBINOTOMY.

BY CHEVALIER JACKSON, M.D., PITTSBURG, PA.

These notes are opinions based on clinical experience. It does not seem necessary to waste space by citing the cases in detail.

Turbinectomy will frequently cure ailments remote from the nose due to lithemia. Thus we all see an occasional case of asthma, vaso-motor coryza, hay asthma, rheumatism, chronic gastric catarrh and a host of other diseases whose predisposing factor is lithemia, get well after a turbinectomy. This does not always follow because of other etiological factors, such as auto-intoxication. Where it does occur it is probably due, not to relief of reflex irritation, but to increased oxidation, and we are never justified in promising a cure. The writer hopes that the foregoing will not be construed as an endorsement of indiscriminate clipping of turbinated bones in every case. In his opinion, however, there is no surer way of permanently reducing soft turbinal hypertrophy than by including the extreme edge of the bone in the clipping. The resulting cicatrix is adherent to the bone, and during the acute turgescence this cicatrix will be at the bottom of a groove, allowing a normal range of swelling on each side while preventing complete stenosis. Any operation including only soft tissues will yield more or less temporary relief from stenosis. The writer's opinion (not claimed to be original) is that the middle meatus normally is for respiration, the inferior meatus for drainage. The secretions drop downward like milk into the pocket of a breast pump. By all means, then, we should keep the drain widely open that the respiratory region above may be freely drained. When obstruction of the normal tear drainage is declared by the oculist not to be at the eye end of the duct, nothing will so frequently relieve as the clipping of the turbinated bodies, including a fringe of bone; and this even in cases where, on inspection, the turbinals seem normal. The damage is done during sleep when the turbinated body on the pillow side swells, as it does even in the normal nose. For the relief of nasal stenosis it is of little use to remove an anterior spur from the septum and leave the turbinal untouched to reform the spur by pressure, and to intermittently occupy all the space gained by the removal of the spur. If too much of the turbinal is removed, of course the well-known warming, moistening and filtering func-



tion of the nose will be less perfect, and even olfaction may be modified by diversion of part of the inspiratory air current from the middle to the inferior meatus. Like many another good surgical procedure, overdoing is the cause of its undoing. We are blinded to what good there may be in an overdone fad. The writer knows of an irregular fanatic on turbinectomy who for years has been cutting out both middle and inferior turbinals, on both sides, for the cure of every human ache and ailment wherever located. The number of cures is rather more than might be expected, due probably to better oxidation and the lessening of lithemic symptoms thereby; but laryngeal and other troubles, of course, follow and bring reputable rhinology into ridicule.

To anesthetize the entire length of the turbinated body, including the bone, requires a quantity of four per cent solution, equiv-



Dr. Chevalier Jackson's Turbinotome.

alent to about five grains of cocaine hydrochlorate, though of this probably not more than one grain is absorbed. Pledgets of cotton laid in contact with the field of operation should be dripping—not squeezed dry. The small amount that may trickle downward into the stomach, though always warned against by writers, is really of little consequence. One grain placed in the nose will produce more systemic disturbance in a susceptible subject than five grains swallowed into the stomach. The reason for this difference in absorbent power is not known to the writer. The pale, putty or olive colored, though otherwise robust individual, with a relaxed, flabby, constantly moist, clammy skin, such as is frequently seen in the Hebrew and Italian races, shows a peculiar susceptibility to cocaine. When a patient of this complexion is to be operated upon, the writer always has a large bottle of aromatic spirits of

ammonia within reach, and a dose is given by inhalation through the other nostril while waiting for the anesthetic effect, and the color of the lips is closely watched for the paleness which is the first sign of syncope. In intra-nasal surgery with cocaine anesthesia, speed is a desideratum. Many patients will stand a half minute or minute operation who will faint if the manipulations are prolonged. For this reason turbinectomy and turbinotomy with a saw for the bony section are frequently associated with syncope, sometimes nausea. Failing to find a satisfactory bone-clipping scissors, the writer designed a turbinotome that is slender enough to be used in an average of nine out of ten cases, yet by reason of a very broad bearing surface at the lock there is no springing of the blades, which will shear rigidly down through soft and hard tissues, clipping bone as neatly as though it were paper. The broad lock and heavy parts are all outside the nose and below the line of sight. Although the blades are straight, it is well to have two turbinotomes, right and left, so that the under blade may be outermost to go under the overhanging edge of the turbinated body. In ten per cent of the writer's cases there was not sufficient room to force the blade under the turbinated body, and then the saw had to be used, taking several minutes to complete a turbinectomy or turbinotomy, whereas the shears require less than a minute. Occasionally the posterior soft tissues will have to be severed with a snare or slender scissors, but these shears will, in the average nose, clip the entire length of the bone. The method of dissecting off soft tissues and nipping the bone has not yielded as smooth a result in the writer's cases as neatly clipping the redundant soft parts and including the edge of the bone.

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## AN ADENOID CURETTE.

BY CHEVALIER JACKSON, M.D., PITTSBURG, PA.

The possibility of an adenoid mass being drawn downward into the larynx after being detached by the curette had long been considered by the writer, but the accident never occurred until after the curette shown in the cut had been designed and used for some time. Then, strange to say, while temporarily compelled to use the regular Gottstein curette, the very accident so often considered occurred, necessitating prompt measures to prevent asphyxia. The spring, attached so as to stand about three millimeters away



Dr. Chevalier Jackson's Adenoid Curette.

from the cutting edge, has never failed to entangle the detached adenoid when in a single mass of large size. After removal of such a mass, a small curette, on which no spring is necessary, may be used to clean off small masses. Usually the finger nail is better than the small curette, and may be relied upon to do a more thorough cleaning. We have, however, such high authority as Randall opposed to thorough removal of every vestige as unnecessary if not safely impossible.

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## TREATMENT OF ACUTE INFLAMMATION OF THE MIDDLE EAR.

BY S. S. BISHOP, M.D., CHICAGO.

In the first stage, or before the serous effusion has taken place or the pain has become severe, gentle inflation and filling the ear with warmed pure or carbolated vaselin will suffice to give relief. When the pain has become intense, inflation must be practiced under very low pressure, as the movements of the drum-head, like those of an inflamed joint, are exquisitely painful. The patient in this stage should be put to bed to keep the temperature equable; a warm 8 per cent solution of cocaine or eucaine may be instilled into the ear, and, if deemed necessary,  $\frac{1}{8}$  grain of morphia can be given in combination with  $\frac{1}{400}$  grain of atropia for an adult. If for any reason the morphia and atropia should not be prescribed, bromidia may be substituted in teaspoonful doses, in water, every half hour until relief is obtained. Then it must be discontinued. The bowels and general health should receive proper attention. We have often found that leeches gave speedy relief. Two Spanish leeches may be applied in front of the tragus and two behind the auricle for adults. The external canal is stoppered with cotton so that the leeches cannot enter it. The skin is pricked until a drop of blood appears; then the leech in a two-drachm vial, with its mouth at the opening of the bottle, is placed so that its mouth covers the drop of blood. The vial is held in position until the leech takes secure hold. Then the bottle is removed and the leech is allowed to fill and drop off. This manner of applying leeches is given because few seem to be conversant with the subject, and this method removes the common objection to handling such repulsive creatures.

Especial care should be exercised to abstract the blood in middle-ear inflammation as much as possible from the region of the tragus, on account of the intimate relation of the blood vessels of this region and the anterior wall of the meatus with the vessels of the tympanic cavity. If enough blood has not been abstracted after the leeches fill and fall off, more can be drawn by applying napkins wrung out of warm water. If there should be any difficulty in stopping the bleeding from the leech-bites, pressure applied to them will succeed. The artificial leech is also an excellent device, but it occasions more discomfort.

The common practice indulged in by the laity of pouring oils, onion-juice, etc., into the ear is a vicious one, since these become rancid and irritating, and predispose to a subsequent inflammation. Poultices are also mischievous and favor suppuration and perforation of the drum membrane.

The writer has seen the following simple device, always convenient, give grateful relief: A piece of clean cotton is placed lightly in the mouth of the auditory canal. A pipe is partly filled with tobacco and lighted. Then a piece of thin cloth is placed over the mouth of the pipe-bowl and blown gently through, while the lip-piece of the pipe-stem rests against the cotton pledget. This filters the warm smoke through the cotton into the canal of the ear, and a grateful sedative effect is soon obtained. I do not remember to have seen this remedy mentioned, but its efficacy in the absence of other remedies has been demonstrated.

Fever calls for antipyrin or its equivalent in some febrifuge that is less of a cardiac depressant. Phenacetin and acetanilid act well. Quinine, the enemy of the ear, must not be used. It aggravates the existing hyperemia and conduces to a permanent deafness. Alcoholic beverages and smoking are prohibited, and any inflammatory condition of the respiratory tract must be vigorously combated.

If the pain and bulging of the drum-head continue, notwithstanding all efforts to counteract the disease, and rupture of the membrana tympani is threatened, it should be incised with the paracentesis knife, in the posterior-inferior quadrant, so as to afford the most perfect drainage. A warm 8 per cent solution of cocaine or eucaine should be left in the ear for twenty minutes before the paracentesis, and, if the pain does not soon cease after perforating, more cocaine should be instilled, as hot as can be comfortably borne, so as to percolate through the perforation and reach the mucous membrane within. This will give relief. The incision should be a long one, cutting through the entire area of the postero-inferior quadrant vertically. The longer it is, the more it relieves the tension of the nerves of the membrane and the freer the drainage. The paracentesis knife must be absolutely sharp and should be dipped in alcohol before using. The perforation generally heals in a few days if no pus has formed.

After the pain is relieved, which should be the object of our first efforts, the ear may be inflated with as low pressure as will accomplish it. The air pressure in the tympanic cavity promotes absorption of any fluid contents and will be likely to improve the hearing. This treatment had best be administered for a few days once a day. As improvement progresses the treatments can be given at greater intervals until the normal condition is established.

Diet, exercise and clothing should be regulated on general hygienic principles.

## SOCIETY PROCEEDINGS.

### NEW YORK ACADEMY OF MEDICINE.

#### SECTION ON LARYNGOLOGY AND RHINOLOGY.

Stated Meeting, October 24, 1900.

WENDELL C. PHILLIPS, M.D., Chairman.

#### **Sarcoma of the Antrum.**

DR. FRANCIS J. QUINLAN presented a specimen of sarcoma of the antrum. It had been removed a few months ago from a man who had presented the usual symptoms of nasal obstruction. The mass had grown so rapidly that operation was deemed advisable. Dr. Bissell, of St. Vincent's Hospital, had exposed the antrum anteriorly and had found that the cavity and the entire malar region were filled with a sarcomatous growth. The diagnosis had been confirmed by microscopical examination; patient has made an excellent recovery.

DR. QUINLAN also presented a modification of the Bosworth snare. By means of an extra and powerful ratchet it was possible to remove with this instrument hard, bony growths. Another feature of the instrument was an attachment by which the wire is held securely. The snare is made by Ermold of this city.

DR. WENDELL C. PHILLIPS presented a small polyp. He said that he had recently had under treatment a patient with suppuration of both the ethmoid and sphenoid cells on both sides. After the removal of the middle turbinate he had introduced a small Myles curette into the opening of the sphenoidal cavity on the right side, and on its withdrawal this small polyp had followed. It had apparently lodged in the mouth of the sphenoidal sinus.

DR. PHILLIPS also presented a cautery handle. The principal features of this instrument were that the parts were movable, but could be easily and securely fixed in any position. The cautery tip is placed in a revolving hub, and is secured by a screw nut. The contact button always remains uppermost during the operation. The instrument is the device of Dr. F. E. Neresheimer.



DR. MAX TOEPLITZ reported the following case: The history dated back five years, the child being now ten years old. About the only symptom was the mouth-breathing. At one time she had been treated by one of the members of this Section, and a portion of the growth removed. This had given relief for about two months. When first seen by him recently, there had been a swelling extending down into the region of the larynx. The tumor was about as thick as the thumb, and about two inches in length. There was a swelling in the nose extending outward as far as the vestibule of the right nostril. On examination of the naso-pharynx both growths were found to originate in the vault of the pharynx. He had diagnosed the tumor as one of those rare vascular fibromata described by Bensch. These tumors are not seen after the twenty-fifth year, and apparently are the result of a peculiar arrest of development. No tissue had been removed as yet for microscopical examination. He would try to remove the tumor by means of a snare introduced through the nostril. If this were not sufficient, and the tumor recurred, then the upper jaw would probably have to be removed, as done by Dr. Wyeth about four years ago.

DR. QUINLAN said that he had presented to the academy an exact counterpart of the one under discussion, except that its ramifications did not penetrate into the nasal cavity. He had seen three such cases, and they had all been of the myxomatous order. The growths had been removed by the cold snare, and none had recurred, so far as he knew. The introduction of a snare up through the rhino-pharynx seemed to him the better way of operating than through the anterior nares. He believed these growths were of the benign rather than of the malignant order and were generally found among young people who were feebly nourished and whose hygienic environment was not good.

DR. ROBERT C. MYLES thought the growth looked more like a myxoma than a fibroma. The case referred to by Dr. Toeplitz had been operated upon most successfully by Dr. Wyeth. The patient had been presented to the Section some time previously by Dr. Lincoln. At the time there had been pressure in the antral, orbital and zygomatic region. At the operation the malar bone was sawed through above and below, the zygomatic arch had been broken and the large mass of vascular fibromata were removed from the antrum and sphenoid-ethmoidal regions. The patient had done well for a few years, but had returned to the speaker with a recurrence. He had snared off several of the vascular fibromata, but the free hemorrhage prevented the complete removal. The growths ultimately atrophied

when the patient was about twenty-eight years old. He did not think these extensive and mutilating operations were desirable except in the class of cases just referred to where it was necessary to relieve the dreadful suffering and protect the patient's life; it was better in recurring cases to remove them repeatedly through the rhino-pharynx, and wait until the patient had passed the age of atrophy, which was usually from twenty to twenty-eight years, when they would be spontaneously cured. Therefore, in the case under discussion he would advise removal of the tumor without mutilation.

DR. J. F. MCKERNON said that he had operated upon a somewhat similar case in 1892, and it had been published in full in the Manhattan Eye and Ear Hospital reports. The tumor had presented an almost identical appearance with that shown this evening. The tumor had extended into the vault of the pharynx, and down the posterial pharyngeal wall and well on to both sides. It had been removed by the cold snare introduced through the nares. This had been done under cocaine, and very little blood had been lost. Under ether the lymphoid tissue had been removed with the Gottstein curette. About eight hours later a very marked torticollis had developed and had persisted for about eight days. The neurologist, who was asked to see the case, had expressed the opinion that the anterior arch of the vertebra had extended farther forward than usual, and that possibly a little more force than usual had been exerted in operating. Dr. Knight had reported this case as a naso-pharyngeal reflex. He had seen the case four years afterward, and there had been no recurrence. The pathologist had reported the growth to be myxomatous, not fibrous.

DR. T. W. CORWIN said that about one year ago he had seen a very similar tumor, which had projected from the naso-pharynx into the pharynx. In addition, an arm of the tumor had presented in the vestibule on the left side. The case had been under observation for about two years. He had removed several sections presenting an ordinary myxomatous appearance, and this character of the growth had been confirmed by the report of the pathologist. The tumor had been removed readily under an anesthetic by simple divulsion. When seen about three months ago there had been no recurrence. The patient was eleven years old.

DR. TOEPLITZ said that the tumor had been very carefully and thoroughly removed two years ago, and with quite some hemorrhage. He thought it was more myxomatous in the nose than fibrous, but fibrous in the throat.

### **The Diagnosis and Treatment of Some Functional Forms of Defective Speech.**

DR. G. HUDSON MAKUEN, of Philadelphia, presented this paper. He said that schools had been established for correcting defects of speech, but their work had been unsystematic, and not far-reaching. At the outset one must have an alphabet of sounds. Such an alphabet had been constructed long ago, and had been very properly called the "physiological alphabet." Dr. Makuen's revised alphabet contains forty-four sounds, and serves as the standard for comparison in all cases. Every departure from this standard should be carefully recorded for future reference. The causes are often not easily discoverable. The three mechanisms concerned in the production of speech are: (1) auditory, (2) vocal and (3) oral, and each one of these may be again divided into central and peripheral. When the budding intellect begins to assume control of the hitherto automatic speech processes of the child there may be more or less friction in the peripheral mechanisms resulting in defective articulation, or stammering, or both. The auditory center is closely related to the motor speech center, and their development is simultaneous. Defects of speech may arise from either subjective or objective causes. In regard to prophylaxis the speaker said that the direction of good speech habits was comparatively easy, but the correction of faulty habits once acquired was much more difficult. In many children the demonstrative tendency to babbling should be encouraged, though occasionally it might be necessary to repress it. Examples of good speech should be given children, and the imitative faculty should be encouraged. Baby talk should be limited strictly to early childhood. Stammering is an acquired defect, although the nervous conditions predisposing children to this affliction are often transmitted through several generations. Persons so predisposed are very difficult to cure of stammering. A child exhibiting this tendency should be led unconsciously to speak slowly, and should never be allowed to describe exciting events. This requires some tact because the child should never know the true reason for these precautions. Many children have been made confirmed stammerers by having their attention called to the enormity of this offense. In the articulatory form of defective speech the person must be shown the positions which the organs of speech should assume in order to produce correct speech, and for this purpose a hand mirror would be found useful. Stammerers may or may not have marked articulatory defects, but they have no voluntary control of the peripheral



mechanisms. All stammerers experience a greater or less confusion of ideas, and this increases as the necessity for expression of thought increases. In the majority of cases the greater the desire for correct speech the greater the difficulty. The ready acquirement of the faculty of speech in the second year would not be possible except for a certain inherited faculty. Stammering is not always of cerebral origin. The child who has inherited a predisposition to stammer may be made to stammer by a fright or a fall. Stammering is a complex phenomena, and no two cases are exactly alike in their etiology or in their external manifestations. In all cases the nose and throat should be carefully examined, and all irregularities corrected. The free action of the tongue should be made possible by snipping a too short frænum. The treatment of stammering must be educational and carefully adapted to the individual. A study of the mental attitude throws much light on the treatment. It was a well recognized fact that the development of muscles is valuable only so far as it develops nerve power. The proximate cause of stammering exists in some derangement of the nervous mechanisms of speech. The normal functional activity of the cortical centers could only be restored by physiological exercise, and this can come only by conscious effort to regain voluntary control over the entire muscular system, but particularly those muscles immediately concerned in the processes of speech. Specially trained assistants are required, and they must work in entire harmony with the physician.

DR. J. E. NEWCOMB said that about eighteen months ago he had heard Dr. Makuen read a paper in Chicago on similar lines, and had seen him exhibit a patient at that time living in Chicago, who had formerly been under his care. The result in that case certainly spoke more eloquently than anything else could do regarding the correctness of the principles laid down by him.

DR. T. R. CHAMBERS recalled the excellent results shown in a number of patients presented by Dr. Makuen at the meeting in Philadelphia last May.

DR. D. BRYSON DELAVAN said that a general study of the work hitherto done in this field would impress one with the fact that it was either impractical or else unscientific. The reader of the paper had placed this important subject on a basis at once practical and scientific. He felt justified in believing that the results obtained by Dr. Makuen were unequaled.

### The Pathology of Pharyngo-Mycosis.

DR. D. BRADEN KYLE, of Philadelphia, presented this paper, accompanied by lantern-slide illustrations. The object of the paper was to show the correctness of the statements made by various authors to the effect that there is a disease resembling pharyngomycosis which is not due to the leptothrix. While kerato-hyalin is normally present in a section of mucous membrane, it is in small amount and not easily demonstrable. The pavement epithelium hardens much more easily than the cylindrical epithelium. He was of the opinion that age and sex had very little influence on the disorder. Numerous whitish excrescences appear at the base of the tongue and in the solitary follicles. Frequently the disease is associated with dental caries. The general systemic condition does not seem to be a very important factor. The common site is on the tonsil. Probably a pathological alteration in the submucosa causes a change in the glandular secretion and forms a suitable nidus for certain bacteria. The sections exhibited showed the primary lesion in the submucosa, and hence it did not seem probable that the cause is bacterial. Laboratory investigations, undertaken with a view to showing the disease-producing power of the leptothrix, had been negative. In some of the cases of keratosis the presence of the leptothrix had been demonstrated.

DR. JONATHAN WRIGHT said that he had been interested in this subject some years ago, and at that time had been attracted by the statement that the mycelial threads of the various growths are sometimes found beneath the epithelium. He had accordingly examined a number of sections, and had come to the conclusion that what had been really seen was the hyaline degeneration pointed out in the paper just read. Mycosis was a term which should apply to the mycelia of a saprophytic growth. He had examined many tonsils and other lymphoid tissues in which the phenomena described in the paper were present without any thought that these pathological conditions had anything to do with mycosis. He was inclined to think that the connection between the mycelial element and the keratosis was more or less incidental. He understood the reader of the paper to mean that the changes in the epithelium and in the submucosa had rendered the soil favorable for the development of those microorganisms. He thought the reason keratosis is observed principally in the lymphoid structures of the throat is that these structures are especially subject to pathological retrogressive changes, and he believed it was these changes which Dr. Kyle had so carefully de-

scribed. This was especially true of young adult life, the time when mycosis is chiefly observed. The hypertrophied lymphoid tissue of the throat had been pointed out as the chief points of entry of various germs, but he was not disposed to accept this view unreservedly. The points of entry were probably those structures better fitted to carry infection—rather the lymphoid tissue which had not become hypertrophied, but it had been established beyond doubt, he thought, that, as a rule, tubercle bacilli enter the general system above the diaphragm. It was just such work as that represented by this paper which would clear up this important question.

DR. H. L. SWAIN, of New Haven, said if the tonsils were anything, they were like the lymphatic glands in other situations. When there is a tubercular gland in the neck, we do not say that the infection began there, but rather that it was stopped there. The same was true of the tonsil. The germ probably enters the structures around the tonsil and is arrested by the latter. Most cases of tuberculosis of the lungs begin in the lymphoid tissue at the bifurcation of the finer bronchioles, the lymphoid structures being in this latter, as in all cases, paths of detention, and possible elimination by destruction of germs by the cells, rather than points of entry.

All this would seem to bear out Dr. Kyle's observations that, as he has shown us to-night, the disease may begin in the tonsil tissue itself and work toward the surface.

DR. H. HOLBROOK CURTIS asked Dr. Kyle to explain the difference in the appearance between the two classes of mycosis—that with, and that without micro-organisms.

DR. W. K. SIMPSON asked what had been found the best treatment.

DR. KYLE, in closing, said that his paper was on pharyngomycosis, so-called. In cases that he had carefully observed the symptoms had varied. In the case specially studied, the membranous patches had been entirely limited to the pharynx, and the macroscopical appearance had not varied from true mycosis. In the case referred to there had been no bacteria etiologically associated with it, and he believed there was a variety of keratosis, as described by Brown Kelly and Richardson. He did not mean to say that there was not such a thing as pharyngo-mycosis, but that the condition studied by him was free from the presence of the leptothrix and unquestionably was a separate disease. The change seemed to begin in the submucosa and the keratosis was the result of this.



## BRITISH MEDICAL ASSOCIATION.

*Sixty-Eighth Annual Meeting, Ipswich, July 31, August 1-3, 1900.*

SECTION OF LARYNGOLOGY AND OTOTOLOGY.

*(Proceedings Continued from Page 313.)*

### **A Discussion on the Pathology and Treatment of Toxic Paralysis of the Larynx.**

P. WATSON WILLIAMS. There are, of course, many drugs and toxic substances which, by their influence on the cerebral cortex, along with other symptoms, may cause a paresis or paralysis of all voluntary muscles, and, therefore, may paralyze voluntary phonatory movements of the vocal cords, without going so far as to paralyze the reflex adductor or abductor movements of organic life. But using the term "organic paralysis" as implying involvements of both volitional and organic movements, for the purposes of our discussion, the term "paralysis" may be assumed to imply organic paresis or paralysis of one or more of the laryngeal muscles as distinguished from mere loss of voluntary movement, because we know that so long as the reflex centers in the medulla, the peripheral nerves, and the muscles of the larynx are intact, there is no true laryngeal paralysis, the reflex movements of phonation, respiration, and deglutition being unimpaired. We may, therefore, exclude from all consideration paralysis of cortical origin, the scope of our inquiry extending to laryngeal paralysis resulting from the direct bio-chemical influence on the lower neurones and the muscles they subserve, of substances in the blood or tissues, whether due to auto-intoxication, to the toxins resulting from invading micro-organisms, or to the pathological action of various drugs or other poisonous substances introduced from without.

There are two distinct possible methods by which the laryngeal paralysis may arise: (1) From the direct application of the toxic substance to the larynx, (2) from the selective affinity of various poisons in the blood for the laryngeal nerves or their bulbar nuclei. The entry of the poison directly through the laryngeal mucous membrane may, in some cases, account for the occurrence of varieties of myopathic laryngeal paralysis which are either never, or at least very rarely, observed in purely neuropathic laryngeal paralysis, for example, isolated paralysis of the adductors, the interarytenoideus, or of the thyro-arytenoidei interni, while the latter obtains in most of the neuropathic paralyses.

We cannot altogether pass without notice recent researches on the influence of various toxic matters on nerve fibres, and a point of some importance is the evidence tending to show that the axon does not receive all its nutrient material from the ganglion cell, but rather that it depends on local processes of diffusion, governed, it may be, to some extent, by the influence of the ganglion cell, but nevertheless being essentially a local process in the area of peripheral nerve distribution.

Hence we shall find that toxic paralysis of the larynx is more prone to follow toxic infections of the larynx itself than general toxic infections. Thus such affections as diphtheria and typhoid fever supply the larger number of instances of toxic laryngeal paralysis. Probably the frequency with which diphtherial neuritis primarily attacks the fauces is partly determined by the presence of the local lesion, just as the toxic agents of rheumatism or gout attack particular nerve fibres which are exposed to cold or injury.

The fact that in diphtherial paralysis the paralysis of motion usually declares itself first in the palatal muscles and is often confined to the fauces and spreads no further, and sometimes declares itself quite early in the course of the disease, even as early as the fourth day, suggests very strongly that the faucial paralysis is due to the local influence of the toxin absorbed at the seat of the membranous deposit, and that the occurrence of diphtherial laryngeal paralysis arises in a similar manner. Yet although doubtless this is true in a measure, and applies to those cases in which the muscles are paretic owing to inflammatory changes such as occur in the tissues in the immediate neighborhood of the primary diphtherial lesion, other clinically observed facts seem to indicate that the majority of cases even of faucial paralysis are neuropathic, and due to the selective affinity of the diphtherial toxin for certain portions of the nervous system. Thus, in 494 cases of post-diphtherial paralysis observed by Miller at the Southeastern Hospital only 185 were primary paralysis of the palate. Again, although the bulk of the palatal paralysis occurred between the fifth and fifteenth days, the bulk of the oculo-motor paralysis, 197 in number, occurred likewise between the fourth and the seventeenth days. Moreover, cases of primary paralysis of the palate do occur long after the angina: there is no proportion between the severity of the primary faucial disease and the severity of the paralysis; indeed, paralysis not seldom develops when the primary infection has been very slight, even so slight as to escape detection.

True toxic paralysis of the larynx may occur in typhoid fever, especially during the third or fourth week; it usually takes the form of abductor or total recurrent paralysis; and in a very few cases it appears to have been due to a bulbar nervous lesion rather than a peripheral neuritis, according in this respect with post-typhoid paralysis in other regions.

Boulay and Mendel reported seventeen cases of laryngeal paralysis, coming on usually during the period of convalescence; but the authors do not offer sufficient evidence as to the number of cases that might be properly attributed to direct implication of the laryngeal muscles by inflammatory exudation, or to compression of the recurrent nerve by glandular enlargement.

Lublinsky reports six cases of post-typhoid laryngeal paralysis; in one severe case paralysis came on in the fourth week, in the others during defervescence. The abductors were paralyzed in two cases, one recurrent in three cases, and both recurrences in one case. In one paralysis of the recurrent nerve the soft palate was paralyzed also, and in another there was paraplegia and lost reflexes, but no anesthesia.

Another case of special interest was reported by Bernoud, in which stridor and inspiratory dyspnea developed during the third week of typhoid fever. Laryngoscopic examination revealed complete double abductor paralysis, and there was no appearance of laryngitis. The diagnosis of typhoid fever was determined to the exclusion of all other affections, especially diphtheria, and confirmed by Widal's reaction being positive, and by the existence of all the usual symptoms and the occurrence of a typical relapse. In this case, too, paralysis of the soft palate supervened on the laryngeal paralysis.

From personal investigation and a view of the recorded cases, Przedborski concludes that paralysis of the laryngeal muscles in typhoid fever is more frequent than supposed, and this he considers to be capable of proof if the larynx be examined in all cases at different periods of the disease; and he further states that such paralysis is equally frequent during the febrile period, as in the convalescent stage. Moreover, he finds that all the muscles, adductors as well as abductors, are attacked with equal frequency, and that at first only one adductor is attacked, the abductors being later involved, and that paralysis beginning in the dilators of the glottis may disappear and the constrictors then be attacked.



It seems probable that several of this author's cases, especially those observed during the febrile stages of the disease, were myopathic paralyses due to local inflammatory changes. I have examined a large number of cases of enteric fever laryngoscopically, and have not observed frequent occurrence of paralysis in the larynx, while true toxic paralysis is undoubtedly rare.

The same writer describes several cases of laryngeal paralysis in typhus fever, to which the foregoing remarks are also applied, but he considers that the prognosis as regards recovery from the laryngeal paralysis is much less favorable in typhus than in typhoid fever.

Similarly, abductor or recurrent laryngeal paralysis may arise in the course of influenza, and possibly in measles. Of the latter, the only observation that I have been able to trace is the record of three cases by Surgeon-Captain Smith, in which total bilateral recurrent paralysis of the cords set in a few days after the subsistence of the fever, but it only lasted from six to ten days, and, therefore, although it is stated that there was no indication of laryngitis, nor of congestion or inflammation in laryngoscopic examination, I feel some doubt as to these being instances of true neuropathic paralysis. Syphilis has been known to cause laryngeal paralysis, and if we may rightly attribute the central nervous lesions characteristic of tabes dorsalis to the remote influence of the syphilitic virus, it must be reckoned about the most prolific cause of neuropathic laryngeal paralysis.

Botey has recorded five cases of apparently neuropathic laryngeal paralysis directly traceable to syphilis, and he considers that syphilis is the most frequent cause of bilateral and especially unilateral recurrent paralysis, going so far as to declare that one ought always to regard a paralysis of one posticus muscle as syphilitic, when other recognized sources of pressure on the recurrent do not appear to exist. Botey further observes that these paralyses are but rarely associated with gross syphilitic lesions in the larynx, and it is worthy of note that the paralysis takes the form of a unilateral or bilateral paralysis of the posticus fibres or of the whole recurrent.

True rheumatic paralysis is rare, if we exclude the cases due to perineuritis induced by exposure to cold, the rheumatic toxin not showing a proclivity for attacking the nervous system like that of diphtheria. I think two of my own cases, however, are perhaps instances of true rheumatic neuritis.

Other cases of rheumatic laryngeal paralysis are recorded by Procter Hutchinson. In one case, at any rate, facial erysipelas has been followed by paralysis of the soft palate and of the postici muscles (Feith), and a case of posticus paralysis due to gonorrhea is described by Lazarus.

I have recently observed the development of laryngeal paralysis in a case of multiple peripheral neuritis under my colleague, Dr. Shingleton Smith.

Turning now to the inorganic poisons which have been stated to cause laryngeal paralysis, we find that the majority of the recorded cases refer to lead poisoning. Heymann describes three cases of his own; two showed double posticus paresis, and one complete paralysis of both recurrens. Heymann considers that only four of the various cases recorded are clearly attributable to lead—namely, those of Mackenzie and Sajous, and Seifert's first and third cases, all occurring in painters working with white lead. Either posticus or complete paralysis was present in all these cases, except that of Mackenzie, who reports that his case, that of a painter, aged thirty-five years, suffered from complete paralysis of the right crico-arytenoideus lateralis.

Tanquerel des Planches relates that horses working in red lead factories suffer from paralysis of the muscles of the larynx, often necessitating tracheotomy, and Heymann refers to statements in several veterinary works on this subject. Thus, Hurtel d'Arboval relates the same fact concerning horses working in white lead factories; and Ranque also, in reference to the red lead factories at Tours, while the more precise and later observations of Schmidt, Krichels, and Beckmann prove that horses suffer from posticus paralysis due to lead poisoning, and that they are usually otherwise in good health, and able to work again after tracheotomy.

Arsenic has been stated to cause vocal cord paralysis, but I have not been able to trace a reliable instance in point, except one case in which Heymann observed laryngeal paralysis distinctly attributable to arsenic.

Atropine, morphine, copper and phosphorus have been said to cause laryngeal paralysis. Trévelot relates a case of aphonia quickly following a morphine injection. But Günther relates instances of paralysis of the vocal cords in horses, observed by different authors, especially paralysis of the abductors, caused by different kinds of peas, *lathyrus sativus* and *cicer*, *pisum umbellatum*, etc.

Very interesting and germane to the subject under discussion are the experimental observations of Hooper, of Boston, and of Semon and Horsley, on the apparently peripheral and differential action of ether on the laryngeal muscles, which showed that when various animals were deeply narcotized by ether, stimulation of the peripheral end of the divided (as well as the undivided) recurrent nerve resulted invariably in abduction of the vocal cord, in contradistinction to the adduction which was invariably produced by the similar stimulation of the recurrent in animals not deeply under the influence of anesthetics, or when the recurrent is stimulated in the recently-excised larynx.

These facts point to the selective action of the ether on certain muscles of the larynx, namely, the adductors rather than the abductors, or, to use the words of Semon and Horsley, "we are driven to conclude that ether must act specifically on either the nerve fibres, their endings in the adductor muscles, or on the muscular substance itself." We are all aware of the proclivity of the postici muscles to succumb earlier than the adductors of the vocal cords in all progressive organic lesions of the centers or trunks of the motor laryngeal nerves, but in the case of this toxic substance, ether, owing to the specific selective action, the adductors succumb before the abductors.

We at once realize that the specific selective affinity of a toxic substance may, theoretically at any rate, lead to its pathological action being spent mainly on any particular muscle or group of muscles. There may be some foundation in fact for Morell Mackenzie's dictum that "in cases of toxic poisoning the adductors above are affected, just as in lead poisoning the extensors of the forearm always suffer, the flexors never." As I have mentioned already, Mackenzie himself diagnosed isolated paralysis of one crico-arytenoideus lateralis apparently from lead poisoning.

Yet it is remarkable that in true toxic laryngeal paralysis the postici, with few exceptions, have succumbed either earlier than or concurrently with the adductors of the cords. Without entering into the large questions of the pathological changes in the nervous system resulting from diphtheria, I think the evidence is in favor of the view that the toxin acts on the whole neurone but especially upon the terminal arborisations of the dendron and end plates, and perhaps the early palatal paralysis, like early cardiac failure, is partly determined by the effect of stress. Though very early and possibly the primary alteration in the neurone occurs in the cells of the anterior horns, the most obvious and probably the



earliest changes due to diphtherial poisoning consist in a parenchymatous degeneration of the finer branches of the peripheral nerves, and Gombault found very similar alterations of the peripheral nerves in artificially-induced lead poisoning.

The present state of knowledge hardly warrants definite generalization, but it seems probable that the majority of cases of toxic laryngeal paralyses have their foundations in peripheral neuritis, a view which has been recently expressed by Semon. This would afford an explanation of the varying localization of the paralysis in different territories supplied by the recurrent laryngeal nerve. Thus, excluding the purely myopathic paralyses, toxic paralyses are due to inflammatory generation of the neurone, that is, in its widest sense, neuritis, and may be conveniently divided into two distinct pathogenic groups:

1. Infective neuritis, commonly occurring in the course of diphtheria and less frequently observed in typhoid fever, typhus fever, scarlatina, morbilli, influenza, rheumatism, tuberculosis, syphilis, cholera and malaria.

2. Toxic neuritis, most frequently due to lead poisoning but also reported to have occurred in poisoning by arsenic, copper, antimony, phosphorus, alcohol, atropine and morphine.

We see that laryngeal paralysis of toxic origin has been reported as resulting from much the same poisons and infectious diseases as are known to cause paralysis in other regions. But, notwithstanding the considerable variety of toxins and poisons that have been stated to cause laryngeal paralysis, one must accept with caution many of the cases recorded:

Atropine, morphine and phosphorus have been said to cause laryngeal paralysis.

The treatment of these toxic laryngeal paralyses may be summed up in:

(a) The resort to appropriate general treatment of the infective disease when that is the cause of the paralysis; and measures directed to the removal of the poison in the circulation and tissues in the case of organic or metallic poisons.

(b) Intralaryngeal applications of the faradic or galvanic current, combined with the internal exhibition of strychnine in considerable doses, either by the mouth, or directly into the affected muscles, when feasible.

(c) The relief of dyspnea and threatened asphyxia in cases of bilateral abductor paralysis by intubation or tracheotomy—measures which have frequently been necessary in diphtherial and typhoid laryngeal paralysis.

DR. LODGE described two cases of adductor paralysis of the larynx, due to lead poisoning, which had occurred in his practice. The first case was that of a youth, aged nineteen, who awoke one morning and found himself hoarse. On laryngoscopic examination double adductor palsy was evident. Hysteria was excluded, and there was a blue line on the gums and other evidence of plumbism. Prophylactic and other treatment was adopted. Faradism was applied intralaryngeally. Recovery was complete in about six months. The second case was that of a youth, aged eighteen, who showed bilateral adductor palsy. He had a blue line on the gums, and his mother, who lived with him, also suffered from well-marked lead poisoning. He recovered rapidly in two or three months under general treatment and faradism applied intra-laryngeally.

DR. TILLEY said the introducer had treated the subject so fully as to leave little more to be said. He narrated a case of septic or "hospital" sore throat from his own practice, in which there were no signs of diphtheria, but soon afterwards abductor paralysis of the left cord developed, due, no doubt, to a poison absorbed from the throat, causing peripheral neuritis. Practically it seemed that any poison might produce a peripheral neuritis of the larynx, just as it might do in other parts.

DR. SPICER remarked that the subject was one which stood much in need of elucidation, and he was sure the Section was much indebted to Dr. Watson Williams and the other speakers. His own experience had not enabled him to form a connected view of the subject. He had noticed cases of paresis after tonsillitis, but he could not be sure whether they were due to inflammatory changes or to absorption of toxins. There seems to be a sort of stiffness of the cords, so that both abduction and adduction were defective. He had experienced this in his own person after influenza.

DR. WATSON WILLIAMS remarked that adductor paralysis from lead was very rare, and Dr. Lodge's contribution was all the more valuable on that account. Morell Mackenzie's dictum that the adductors were specially prone to be affected was not true; the abductors were much more frequently affected, and often they alone suffered. This was so also in the case of horses.

**Auditory Results of the Removal of Post-Nasal Adenoids—Modified Operation—**By DAVID McKEOWN, M.A., M.D., M.Ch.

The hearing is found within a few days after operation to be improving, and it appears to be taken for granted that the improvement is continuously progressive until the final result is reached, and that the final result is the best.

In regard to the early post-operative period, that is, the interval between the operation and the commencement of the commonly-recognized improvement, Semon and Williams, in the article contributed by them to Allbutt's *System of Medicine*, say: "For the first two or three days, owing to the irritation and inflammation set up by the operation, the nasal obstruction and deafness may be but little improved." This is an inference vitiated by non-observation.

The teaching in regard to the influence of the operation upon the hearing is incomplete, incomplete at both ends, both as to the immediate and the ultimate result. In a large number of cases the hearing is found immediately after operation to be much improved, indeed, so much so in some instances that the immediate result does not differ greatly from the ultimate. Many of my operations have been performed without anesthetics, and in these cases the testing has been done when the emotional disturbance caused by the operation has subsided, say within half an hour, and I have frequently found similar improvement as soon as the patient left the chair. Where chloroform has been administered the patient has been tested as soon as he has recovered consciousness sufficiently to exercise his attention. This fact—the immediate improvement in the hearing—came under my observation about seven years ago, and few weeks pass without affording me fresh instances.

The testing has been by questions addressed to the patient, and the two distances here given for each ear, refer to the same qualities of voice—low whisper, loud whisper, moderate conversational voice, loud voice.

It will be observed that the differences between the distances before and after operation are so great as to leave a large balance to the credit of the operation after making liberal allowance for discrepancies incident to lack of precision in the method of testing. The immediate improvement is in many if not in all cases followed by some temporary loss due to the irritation consequent upon the operation.



Believers in the commonly-accepted explanation of adenoid deafness may say that immediate improvement is an impossibility; that the suspension of the ventilating function of the Eustachian tubes being the first stage in the causation of the deafness, we should look to its re-establishment as the essential point for the improvement of hearing; that the tubes were functionless either because they were obstructed by catarrh in the naso-pharynx or because there was paresis and interference with the action of the levator palati and salpingo-pharyngeus muscles; that these morbid conditions, with their consequences—depression of the membrane and ossicles—had been in existence for long periods, and that our pathological knowledge teaches us that for recovery from them considerable time is required.

The answer is that a fact is not the less a fact because we cannot explain it; that the question is to be decided by observation alone; that the "time for recovery" argument also applies with much (although not so much) force to the generally admitted improvement taking place within a few days, for no great recovery could be expected within the time from the paresis or catarrhal obstruction; that the want of harmony between the facts and the theory proves that the theory is at the best imperfect, and that, as the case to be mentioned presently shows, the theory covers only part of the ground.

What has been said applies to only one class of case—namely, those in which there is no perforation of the membrane. As regards the case of chronic otorrhea with perforation, I have had reason for thinking that in these also the removal of adenoids is sometimes attended by immediate improvement in hearing, but up till recently the cases which I had tested were open to objection. The procedure followed was to syringe the ear, test, operate and then again test. It might be urged that all results obtained in this way were unreliable, inasmuch as the distance in the first testing was less than it should be, in consequence of disturbance caused by the syringing.

It has for a long time appeared to me that the immediate improvement after operation was causally related to the relief afforded by the operation to the circulatory mechanism. The pathological conditions existing in adenoids would naturally lead to disorder of the local circulation, and this disorder would be removed or mitigated by the operation, which is attended by profuse hemorrhage, and in many cases by great and immediate improvement in hear-

ing. Dench attaches great importance to obstruction of the venous return current from the tympanum and labyrinth, and dwells upon the labyrinthine conditions—irritative and inflammatory—which may result. The difficulties of our subject are not diminished by invoking irritative and inflammatory affections of the labyrinth as a common result. There is ground for believing that there is also a cerebral factor at work.

The final degree of improvement from the operation may not be the best obtained. It was so in some of my patients, and on examining the post-nasal space I found adhesions between the posterior wall of the pharynx and the Eustachian tubes; a rupture of these adhesions led to improvement in the hearing. The morbid condition was re-established several times; the patients dropped out of observation, and there is good reason for thinking that the unfavorable cicatrization would be permanent. In many cases the raw surface left by the operation—and the consequent area of cicatricial tissue—is extensive. The local conditions are also often unfavorable. The degree of projection in the median line, the width of the fossæ of Rosenmüller, and the size and position of the termination of the Eustachian tubes have to be borne in mind. The latter presents great variety as regards size, shape, projection in the post-nasal space, and the size and character of the opening. In some cases the end is large, trumpet-shaped, projecting considerably into the naso-pharynx, and admitting the tip of the finger; in others the lips constitute a prominence in the naso-pharyngeal wall, and the orifice can be felt as a slit, but too narrow to admit of digital separation. These considerations suggest the possibility, if not the probability of a cicatricial impairment. To counteract such an agency is difficult if not impossible.

Two questions arise: (1) Can the influence of cicatrization be lessened by a division of the operation into stages, for example, by limiting the first sitting to the posterior wall and after cicatrization completing the operation? (2) Can a condition of parts more favorable to innocuous cicatrization than that hitherto obtained be secured at a single sitting by a modification of the method of operating? At present complete eradication is the aim of the operation; cutting instruments—forceps, curettes and rings—are generally employed, and the fossæ of Rosenmüller receive special attention. The mucous membrane covering the adenoids is removed by the forceps, and probably also by the curette and rings; hence the surface for cicatrization. Of this surface the parts of most importance are the fossæ of Rosenmüller, because faulty cicatrization here may lead to a permanent im-

pairment of hearing—to a loss, partial or complete, of what had been gained by the operation. If the lymphoid tissue in the fossæ could be enucleated or pressed out, leaving the mucous membrane *in situ*, although ruptured, torn or lacerated, a great advance would be made. The ease with which adenoids may in many cases be broken up and expelled by the finger is well known, and this fact, coupled with the further fact of the difficulty of removing a piece of the mucous membrane by the finger nail, suggests that the fossæ of Rosenmüller should be reserved for digital manipulation, and should be regarded as lying outside the domain of cutting instruments, except where the finger is insufficient. The finger may be used in two ways: (1) To crush: (2) to scrape. Crushing is preferable, and should be tried in every instance, scraping where thought desirable completing the manipulation. I am now in my practice giving effect to these views. A considerable time must elapse before it would be possible to compare the results of the modified operation with those hitherto obtained. It may be said that if the finger prove satisfactory for the fossæ of Rosenmüller, it may be used for the entire operation. Experience and the data as to conformation of the post-nasal space and the softness or toughness of the adenoids afforded by digital examination must be our guides.

It may be urged that the proposed digital manipulation would not be satisfactory, as it would not be likely to lead to what has been regarded as an essential of the operation—namely, the thorough removal of the lymphoid tissue. The chief reason for thoroughness has been the desire to avoid the possibility of a return of the adenoids; but may the fear of this issue not be a groundless one? Presence of lymphoid tissue in the naso-pharynx is the normal condition, and after operation various circumstances are against reproduction: (1) The devascularization of the naso-pharynx and its neighborhood; (2) the establishment of respiration by the physiological channel; (3) the development of the region involved; (4) the antagonistic influences of time on lymphoid structures, and (5) the improved general health following operation.

Impairment of hearing from a reproduction of the adenoids is remediable, but impairment of hearing from faulty cicatrization is practically irremediable. There is no difficulty in choosing.

Statements made by two patients suggest that cicatrization, in addition to impairment of hearing, may lead to other disadvantages: (a) Respiratory troubles not due to naso-pharyngeal obstruction, but probably dependent on involvement of nerves in the cicatrix; (b) tinnitus.



DR. WATSON WILLIAMS. It was difficult to see the reason, but it must be borne in mind that the cases of adenoids in which deafness was most marked often had the least amount of growth. He had never observed any extensive area of cicatricial tissue after the operation, and he should be sorry to return to the finger nail, which he thought could only do superficial crushing, leaving almost the certainty of recurrence.

DR. LOGAN TURNER had examined cases of adenoids within four or five hours of operation and had obtained similar results to Dr. McKeown. He had never noticed in such cases any change in the position of the membrana tympani—lessened retraction—such as might account for the improved hearing. With regard to adhesions, as described by Dr. McKeown, they would tend rather to keep the tube open. The danger would be, he thought, of tearing the tube, which might cause obstruction.

DR. JOBSON HORNE though the imperfect crushing of diseased adenoid tissue would be much more likely to lead to infection of the middle ear, as the bruised tissue would form a suitable nidus for bacteria. The immediate improvement in hearing was, he thought, mainly due to relief of venous congestion.

DR. PEGLER did not think the bridges and synechiæ so often seen spreading from the upper border of the Eustachian cushion to the roof of the naso-pharynx could be regarded as other than masses of lymphoid tissue. The point had been recently discussed and practically settled by the laryngological society. Personally, on finding this condition after an operation, he concluded that the operation was incomplete. Instances of great and immediate improvement of hearing had occurred to him after adenoid operations.

DR. SCANES SPICER thought the finger nail was very useful for completing an operation. Dr. McKeown's explanation was rather an attractive one and helped to render intelligible the undoubted improvement in hearing obtained by the older operators with the finger nail. The temporary alteration of the circulatory conditions produced by the finger-nail operation would account for a temporary improvement, followed, of course, by relapse after some weeks.

DR. McKEOWN, in reply, said that testing the hearing immediately after operation was quite unobjectionable. He did not advocate a "finger-nail operation," but the finger might well be employed to break up and detach soft adenoids in the fossæ of Rosenmüller in order to avoid the risk of harmful cicatrization, which was a much more serious matter than recurrence. Immediate improvement and ultimate impairment of hearing power were determined by observation.

**Two Cases of Thrombosis of the Lateral Sinus.**—By SAMUEL LODGE, JUN., M.D.

In the second of the two cases now recorded the etiology and pathology remained obscure.

*Case I.*—A schoolboy, aged fourteen, was sent on January 26, 1900, to the Royal Halifax Infirmary for operative treatment.

For fourteen days prior to his admission he had had repeated shivering fits, with high temperatures. On admission, patient complained of severe pain all over right side of the head. Slight purulent discharge from right ear. No pain or tenderness over jugular vein in neck. No facial palsy. Pupillary reflexes normal. No paresis of extraocular muscles. Right optic neuritis. Temperature  $101.8^{\circ}$ ; the same day he had a rigor and temperature reached  $104.4^{\circ}$ . Ear syringed with lotio boracis, four-hourly. At 6 a.m. the next day had another rigor. The same afternoon under chloroform, the auricle was detached above and behind and retracted downwards and forwards, and Stacke's modification of tympano-mastoid extenteration was performed: The mastoid cells were carious and contained much foul pus. An erosion in posterior wall of mastoid antrum extended into sigmoid groove of lateral sinus. This was enlarged and pus cleared from groove. The sinus appeared not to be thrombosed, so it was determined to keep the wound lightly packed with gauze so as to be able to operate on a bloodless field in a day or two if the condition did not improve satisfactorily. Whilst removing the outer wall of the tympanic attic, in spite of the use of a Stacke's protector, owing to a low-lying middle cranial fossa, the dura mater was exposed. There were no signs of extradural abscess.

The boy's temperature after the operation was subnormal. He appeared much better, but complained of pain in the abdomen. On the morning of the 30th he passed a round worm. The temperature, which had gone up the previous evening, became subnormal again. On the 31st he had another rigor, temperature going up to  $105^{\circ}$ . Temperature normal again at 2 a.m. on February 1st, but three-quarters of an hour later had another rigor, temperature  $103.2^{\circ}$ . The same afternoon the bony wall of the sigmoid groove to the apex of the mastoid was fully exposed. The sinus was denuded of pulsating granulation tissue with a curette and then appeared as a rigid whitish gray cylinder, presenting much the same consistence as a femoral artery injected with lead for dissection purposes. It did not pulsate, and exploratory aspiration withdrew no blood. An

incision in the long axis about an inch long was made through its wall. The thrombus was very fetid, of the consistence and color of dryish putty. A Volkmann's spoon cleared away the thrombus upwards and had to be passed along the horizontal portion of the lateral sinus well towards the torcular, before the blood current was re-established. The hemorrhage was controlled, as is recommended, by gauze tampon and inversion of edges of sinus. The spoon then cleared the thrombus from below until the current flowed freely. The tamponnade was repeated here, and the wound left to granulate. The temperature next day rose again to  $102.2^{\circ}$ ; 20 c.cm. of antistreptococcus serum injected. When gauze was removed some pus escaped from above. The neck, beyond enlargement and tenderness of cervical glands, appeared normal. The temperature gradually sank during the next three or four days, but his face became edematous. No edema elsewhere; no albuminuria; no exophthalmos; no chemosis. No paresis of ocular muscles. The facial edema was considered to be of a passive character, due to some interference with the orbito-facial venous communication, probably set up by a non-infective thrombotic extension. The edema disappeared in a day or two. Serum injections were not continued, as the house-surgeon reported the absence of streptococci in a cover-glass preparation. Before the removal of the thrombus the boy was wasting rapidly, afterwards he constantly complained of hunger, and commenced to put on flesh. On February 6th the temperature rose to  $105^{\circ}$  at 2 p.m. No physical signs discoverable anywhere suggestive of embolic mischief. At 10 p.m. temperature  $98.2^{\circ}$ . From this period his progress was uneventful.

On April 6th the patient was shown at the Leeds and West Riding Médical Society.

*Case II.*—On January 5, 1900, J. T., aged fifty-nine, a foreman mechanic, was referred to me by Dr. Strickland. There was no history of discharge from the ears. About six months previously the right ear became deaf, and shooting pains were often felt in it. Gradually the shooting pains came on at shorter intervals, there was also a loud noise in his ear, which kept time with his pulse. For six weeks past the symptoms had been especially bad. The last two or three days his head was swollen on that side, and the previous night, owing to the pain, he had only slept three hours. Up to this time he had kept at work. On examination the right ear was seen to stand off, and there was a non-inflammatory-looking edema roughly limited to the area covered by temporal fascia in front of ear and to posterior border of mastoid process behind. The edema-



tous area felt boggy on pressure, and did not resemble in appearance or consistence any condition set up by the complications of suppurative middle-ear disease with which one was familiar. Right hearing distance—watch not heard. Rinne's test negative. C. 4 heard well. Left hearing distance—watch heard at half a metre. The membrane was easily seen. There were no signs of old perforation or important gross changes.

The condition was quite puzzling. The same afternoon Stacke's operation was done. Mastoid area sclerosed; antrum at great depth. No signs of pus in tympanum or its adnexa. On visiting him the next day in the ward one was struck by the apparently complete relief, since the exploratory operation had afforded only negative information. The patient was sitting up in bed, and declared he felt quite well. About the 20th he was allowed to be up. On the 25th he wrote home, saying how well he felt, and that he would be returning home the next day. Shortly after tea (4:30 p. m.) he became rapidly very ill, and was semi-unconscious. Pulse-rate unaltered, no vomiting. At 6 p. m. he had a rigor, temperature  $100^{\circ}$ ; quite unconscious, pupils equal, no deviation of eyes, no retraction of head, no localizing symptoms. At 8 p. m. another rigor, temperature  $103.6^{\circ}$ . On January 26th condition generally unaltered. 2 a. m. temperature  $100.2^{\circ}$ . 6 a. m. temperature  $103^{\circ}$ . 10 a. m. temperature  $101^{\circ}$ . At 3:30 p. m. further exploratory operation was decided on. The old wound was reopened and extended. The lateral sinus could not be found, there were no signs of extradural abscess; in searching for pus in the temporo-sphenoidal lobe Macewen's searcher tapped the left lateral ventricle, and a fair amount of clear serum came away; the quantity was not measured. We stitched up dura mater in trephine opening hoping that his intracranial pressure being relieved his condition might perhaps improve, as it had done previously, so as to give time for a definite plan of campaign to be drawn up. Patient gradually grew worse, and died about 10 o'clock on the 27th, with a rectal temperature of  $103.6^{\circ}$ .

*Necropsy Eighteen Hours after Death.*—Trephine opening and mastoid region aseptic in appearance; superior longitudinal sinus healthy. On opening dura mater much fluid escaped, not unlike very thin custard in consistence and color. Veins of pia mater greatly engorged; arachnoid and pia felt waterlogged. Brain removed dripping with above fluid. Cerebral sulci full of this yellowish-green lympho-pus. Section of brain: Lateral ventricles full of similar fluid, no sign of abscess, tracks of Macewen's pus

searcher aseptic-looking. Brain felt on its removal like a mass of putty ready for use. On examining the remaining sinuses the right lateral sinus could be traced with difficulty, as its walls were adherent and the bony groove for the sinus was almost obliterated; this condition extended from the torcular to the bulb. From the bulb to its junction with the subclavian the internal jugular was an imperious fibrous cord. The left lateral sinus was of normal size, and the groove in the bone was very well marked, but the sinus was occluded almost to the commencement of the sigmoid portion by *ante mortem* thrombus. The thrombus was sent to the Clinical Research Society for a report. The report stated that "The white clot from the lateral sinus consists of partly discolored fibrin mingled with recent blood clot. The fibrin has contracted into layers, and is undoubtedly *ante mortem* in formation." The remaining sinuses were quite patent; opposite ear normal. There were no signs of old or recent fracture of skull; no extracranial or intracranial tumor; no traces of infection extending from septic wounds or ulcers on head, neck, or mastoid regions. The history excluded a marasmic thrombosis. Permission for a complete necropsy was not obtained.

#### REMARKS.

Death in this case was presumably due to an extension thrombus forming in the left lateral sinus throwing a greater strain on the collateral intracranial venous circulation than it could bear, on account of the right jugular and lateral sinus being already occluded. As Dr. Hawkins puts it "Upon ligation of the vein (internal jugular) complete stagnation probably occurs in the lateral and petrosal sinuses, but not in the cavernous sinus; sufficient exit is provided by the communication between superior and inferior cerebral veins, between the cavernous sinus and its fellow, between the lateral sinuses across the occipital protuberance, between the torcular, the occipital sinus and the posterior spinal veins, and possibly between the basilar sinus and the anterior spinal veins. No nervous symptoms have been observed to follow."

#### Two Cases of Chronic Frontal Sinus Empyema Presenting Features of Unusual Interest—BY HERBERT TILLEY.

The following cases illustrate some of the difficulties of diagnosis of the obstacles met with in the successful treatment of the disease under consideration:

F. W., female, aged nineteen, left nasal obstruction and severe frontal headaches of twelve months' duration. Examination showed

the left nasal cavity full of large polypi bathed in pus. The post-nasal space was occupied by a large adenoid mass, and hypertrophied faucial tonsils were present. The anterior wall of the left frontal sinus was distended over an area the size of a five-shilling piece. The right nasal cavity was in all respects normal. The polypi, adenoids, and tonsils were removed. Exploration showed the left antrum to be free from pus, while irrigation of the left frontal sinus proved that the pus was present in the cavity in considerable quantity. The anterior half of the left middle turbinal was removed, and the ethmoidal region cleared as far as possible of all pathological products. In the course of a few days the left sinus was freely opened from the outside, and its cavity, which was a very extensive one, was curetted free from all degenerate mucous membrane, a free opening was made into the nose, and the sinus cavity packed with a strip of iodoform gauze two inches wide and three feet ten inches long. It was noted during the operation that a curette could be passed well beyond the middle line towards the right sinus, but, as no pus was ever seen in the right nasal cavity, it was thought that the extension referred to was a diverticulum of the left sinus, and this surmise was strengthened by the sensation of a blind end given to the curette during the operation. The continuance of free suppuration from the left sinus showed, however, that some suppuration focus remained, and a week after the first operation I opened the right sinus only to find it equally diseased as the left had been. Both cavities were packed and irrigated every day for three weeks until they were covered with a healthy mucous membrane, when the external wounds were allowed to close. The patient has completely recovered, and now, two months after the operation, is perfectly free from any nasal discharge.

The case illustrates that although a frontal sinus may contain pus, it does not necessarily demonstrate the fact by a purulent discharge into the corresponding nasal cavity. The explanation in this case being that a pathological opening through the sinus septum allowed the two cavities to communicate and discharge into one nasal cavity only. As it was impossible to explore the right sinus from the nose, a diagnosis of empyema could only be arrived at by an external operation. It would be interesting to know the course of events in this instance. If the left sinus was primarily diseased, are we to ascribe the left ethmoiditis to the irritation of pus flowing constantly from the higher sinus? Since there was no disease in the right ethmoid, but advanced disease in



its corresponding frontal sinus, the view that pus may set up chronic inflammation of the ethmoid, with the associated polypi, seems a probable one.

The second case illustrates a difficulty met with in the successful treatment of chronic frontal sinus suppuration. When all has been done to remove intranasal disease as a preliminary to the external operation, and when in the latter the diseased products have been carefully removed from the sinus, a free passage into nose ensued, and careful aftertreatment carried out, yet, in spite of this, a small quantity of pus sometime continues to flow from the sinus.

E. B., aged thirty, applied for relief from offensive nasal discharge of two years' duration. The frontal sinuses were both found to be diseased and also the left antrum, which was drained by the alveolar method. The external radical operation was performed on the left side, a free passage made into the nose, and a healthy granulating surface covered the walls of the sinus cavity before the external wound was allowed to close. The case did fairly well, but there was always a slight discharge of pus into the nose, and a month after the operation an external fistula formed leading into the sinus. This would close for a few days, then discharge for a similar period, only to close and open again. Three months later I explored the sinus and found the cause of trouble in an extension of suppurating anterior ethmoidal cells outward and between the floor of the sinus and the orbit. These cells communicated with the sinus proper by a small aperture, and thus the cavity was infected, although its greater part was obliterated by cicatricial tissue. By free removal of the partition walls of these outlying ethmoidal cells, they and the overlying frontal sinus were thrown into one cavity, which a week later I epidermized by Thiersch's method. The plan adopted was the same as is carried on in the mastoid operation.

It is at present too early to speak of the result of this last treatment, but as far as can be seen it will be eminently satisfactory, and in future I purpose adopting this method of dealing with frontal sinuses, in the hope that by its means we shall gain as successful and ideal results, with such great saving of time to the patient as we are able to secure in the case of skin grafting for chronic suppuration of the mastoid antrum.

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## AMERICAN LARYNGOLOGICAL, RHINOLOGICAL AND OTOLOGICAL SOCIETY.

*(Proceedings continued from page 362.)*

### **A Further Report Upon the Use of Pure Carbolic Acid in the Treatment of Mastoid Wounds and Chronic Suppuration of the Middle Ear.**

DR. WENDELL C. PHILLIPS, of New York, presented this report. He said that in his report on this subject last year he had made use of the carbolic acid treatment devised by Dr. Seneca D. Powell for a period of only three months. Of the six cases reported at that time, all had remained well up to the present. The cases during the past year had been of about the same class as those already reported upon, but he had also used the method on cases of burrowing pus sacs. He had used the acid freely in these cases and could not say too much of the favorable results obtained. Better results had been obtained by allowing the carbolic acid to remain in contact with the tissues from thirty to sixty seconds before applying the alcohol as an antidote. In not a single one of the pus sac cases had a secondary operation been required. He never performed an ossiculectomy except in cases which had resisted for a long time the usual methods of treatment. He had seen no ill effect from the carbolic acid treatment in this class of cases and he was inclined to believe a more rapid result had been obtained. It could be applied freely without fear of harm. This treatment had been employed in his service at the Manhattan Eye and Ear Hospital in about twenty cases of mastoid operation. The discharge had been markedly lessened in cases in which other cauterizing agents had failed, and in many instances secondary operation had been avoided. It had been particularly valuable when used in the ear in the form of a spray.

DR. LEDERMAN said that he had used this treatment in a few cases, and had found very little reaction if the alcohol were promptly applied. Where the necrosis was superficial there seemed to be quite a field for the use of this agent.

### **An Unusual Case of Traumatic Rupture of the Membrana Tympani.**

DR. GEORGE L. RICHARDS, of Fall River, Mass. This paper appeared in full in THE LARYNGOSCOPE, November, 1900, page 339.

DR. HOLT said he had seen one or two cases of rupture of the membrana tympani from waves striking the head while the person was in bathing. Recently he had seen a case of perforation of the drum membrane occurring in a bicycle rider who had been struck in the ear by a wire hanging down. No other part had been injured.

DR. N. H. PIERCE said that during the bombardment of Santiago a number of sailors had had traumatic perforation of the ear drum, particularly the men working in the turrets. It had been usually accompanied by more or less pain, deafness and tinnitus. Most of these men had been able to return to their work within a week. One of the more protracted cases he had seen recently, and there was a chronic suppuration of the middle ear, which the patient said had not existed before the injury. The treatment had consisted in plugging up the ear with cotton and very carefully abstaining from the use of antiseptics.

#### **A Case of Carcinoma of the Larynx.**

DR. THOMAS H. FARRELL, of Utica, N. Y. This paper appeared in full in THE LARYNGOSCOPE, October, 1900, page 250.

DR. LEDERMAN thought that as the man was not suffering much it would be better to leave him as he was, avoiding operative interference for the present.

#### **A Brief Report of a Case of Cerebral Abscess of Otitic Origin.**

DR. GEORGE L. RICHARDS presented this report. The patient was a man, twenty-eight years of age, seen first on September 16, 1899. At that time he had had a temperature of 100.4° F., and a perforation of the drumhead. On the next day he was perfectly rational and the general condition seemed good. The day following his temperature being normal and his pulse 76, he was allowed to go home at his own request. He was found late in the evening in a dazed condition in a swamp some distance from his home. He was taken back to the hospital, and on that afternoon the speaker had seen him. He was absolutely unconscious; the pulse was 104; the right pupil was much dilated, and the whole left side was paralyzed. He had made a probable diagnosis of cerebral abscess, advised operation, and given an unfavorable prognosis. Ether was given and the mastoid operation done. Not enough being found to account for the man's condition an opening had been made with the trephine at the base of the right middle lobe of the cerebrum and two or more ounces of very foul pus had been evacuated. The cavity was washed out and drainage tube inserted. Four hours after the operation the pulse was 140, respiration 72 and temper-



ature 105° F. He soon developed a severe bronchitis, which may have been the result either of the ether or the exposure in the swamp. The next day the temperature was controlled by antipyrin, and the man became partially conscious. He died on the third day with a temperature of 107.8° F. No autopsy was permitted. Although nearly the whole of the right middle lobe of the brain had been destroyed it was remarkable that the man had been in such apparently good condition that he had been allowed to go out from the hospital, less than twenty-four hours before being brought back in a state of paralysis and coma.

DR. J. C. LESTER commended Dr. Richards' paper because it dealt with an operative failure. More could be learned from such contributions than from reports of successes.

#### **Cerebral Abscess following Chronic Otitis Media—Recovery.**

DR. W. H. DUDLEY, of Easton, Pa. This paper appeared in full in *THE LARYNGOSCOPE*, October, 1900, page 257.

#### **Report of a Case of Granuloma of Prussak's Space Simulating Caries.**

DR. NORVAL H. PIERCE, of Chicago, made this report: The patient was a farmer, thirty-five years of age, having no specific history. He came complaining of deafness. There was no apparent discharge, no marked pain and no tinnitus. The watch on the right side could be heard at a distance of three inches, and on the left side at three feet. Lying over the short process of the malleus, on the right side, and to a certain extent obscuring the membrana flacida was a cauliflower-like mass the size of a small pea. He had removed the mass, which protruded through the membrana flacida by a small pedicle. He at once thought the case to be one of necrosis of the incus, but his doubts were aroused by the lack of inflammation of the pars tensa of the tympanic membrane and the meagerness of discharge. A probe detected crepitus, but was arrested before reaching the inner wall of the tympanic cavity. Before doing an ossiculectomy he scraped out the tissue through the opening already existing. In the tissue removed he detected gritty particles which, under the microscope, were found to be organic, and soluble in hydrochloric acid. After the scraping he found that he had to deal with Prussak's space. The cavity was packed with a little gauze, and the patient made a good recovery. The membrana flacida did not reform over Prussak's space, leaving the cavity exposed to external inspection. The speaker said this was the only case of this peculiar character that he had been able to find recorded. We must

always differentiate this condition from true osseous necrosis before ossiculectomy, the two conditions having many points in common.

DR. C. W. RICHARDSON said that the interesting feature was the calcareous deposit. It was probably the result of irritation from retention of secretion, caused by the presence of the granuloma. Calcareous deposits occurred with exceptional frequency.

DR. PIERCE replied that this was a rather common condition in tympanic membrane, though the case was not well understood. The case was important because it showed the necessity of differentiating this pathological condition when occurring within a granuloma from the necrosis of the ossicles before operating.

### **Two Operative Cases of Lateral Sinus Disease of Otitic Origin with Jugular Ligation.**

DR. OTTO JOACHIM, of New Orleans, read this paper. The first patient was a white male, twenty-four years of age, who had been admitted to hospital on October 10th. Both ears had given more or less trouble since childhood. The present illness had begun with pain in the head, especially on the right side, malaise, fever and a chill. He was extremely restless, and answered questions slowly and talked at random. There was tenderness over the antrum and a purulent discharge from the ear on the right side. The diagnosis was pyemia of otitic origin. The operation was done on October 12th, and the lateral sinus was laid bare freely. The internal jugular was ligated before division. Both the vein and the sinus were found to be purulent. The operation was very extensive, but the patient survived the immediate shock. The temperature continued between  $101^{\circ}$  and  $104^{\circ}\text{F.}$ , reaching  $106^{\circ}$  on the third day, while the pulse was between 88 and 100. The wounds were opened on the third day, and the lower one was found distended with pus. Cleansing the parts did not control pyemia. On the sixth day a thorough search was made for the pyemic focus, but without success, and the man died on October 24th. At the autopsy numerous metastatic abscesses were found in the lungs, and the right lung showed a pneumonic process. The right lateral sinus was found thrombosed, and a few drops of pus were discovered in the sigmoid sinus. There were extensive pockets of pus in the deeper layers of the neck.

The second patient was a white youth of nineteen years, who had had trouble with the right ear since 1889, marked by ear ache and periodical discharges of pus. The present illness had begun with fever and swelling behind the ear four days previously, and he had had a chill two days before coming under observation. The temperature was  $102^{\circ}\text{F.}$  and the pulse 120. There was no special tender-

ness of the mastoid, and the external auditory canal contained but little serous discharge, and having no particular odor. Shortly after admission the boy had had a severe chill and the temperature had risen to 104°F. The next day the temperature was 102° and swelling seemed to be somewhat larger. He was operated upon at this time in the usual way. The sigmoid sinus was exposed and opened throughout its entire length, and a solid coagulum removed. The internal jugular was irrigated. On the fifth day the dressings were changed for the first time. The general condition of the patient was satisfactory. The upper wound was dry but had a peculiar odor. The speaker said that statistics showed a greater preponderance of recoveries in cases in which the jugular had been ligated. It was worthy of note that complete facial paralysis occurred in spite of precautions to prevent it.

#### DISCUSSION.

DR. RICHARDSON said that these reports were not only interesting but instructive as affording the necessary data for making an early diagnosis. The danger in these cases was not so much from the formation of a thrombus in the sigmoid sinus as from the thrombus lying there day after day until pyemia develops. When there were fever and chill the harm had been done, yet unfortunately this was often the first positive evidence of the existence of a septic thrombosis. He had had under his observation a case from the very start, yet the septic thrombus had formed without any symptoms showing before the chill. The day before this symptom had appeared the patient had had an almost normal temperature, and had seemed to be better than before. The statement has been made that the occurrence of an elevation of temperature after the subsidence of the other symptoms, and in the absence of retention of pus, should lead one to suspect septic thrombosis. In his opinion, ligation of the internal jugular was the course to pursue in all of these cases. It did not add to the gravity of the case, and prevented the septic infection becoming more general.

DR. N. H. PIERCE said that his experience had led him to believe that the most important symptoms in sinus thrombosis were chill and sudden rise of temperature, or sudden fluctuations of temperature. However, within the past month, an otitis media had developed in a young girl after the grip, and just as she was recovering from this an exposure to cold had caused a return of pain in the ear and a muco-serous discharge from the ear. After a few days she had had a series of slight chills, and the temperature suddenly arose to



within from 100° to 105°F. Two other consultants had agreed with him in the diagnosis of septic thrombosis. The next morning the temperature had fallen to 103°, and from purely friendly and sentimental reasons he had postponed operation. In another day she had developed the usual evidences of erysipelas about the ear, which explained the chills and temperature, and had made a satisfactory recovery.

DR. N. L. WILSON said that he had seen last winter a case in which pyemia of the joints, the heart, the lungs, and the brain had been present, and yet the patient had recovered. The case had been under the care of Dr. Toeplitz.

DR. JOACHIM said that undoubtedly a continued high temperature in these cases was very suspicious of infection of some of the sinuses, and yet it did not apply to children, for, in them there might be a very high temperature without any sinus thrombosis. In the adult the tendency to fever was not great. Of the metastatic affections the most favorable were those affecting the joints and the muscles. In some cases recovery had taken place without tying the jugular vein though the lungs had shown metastases. It was, however, the part of prudence to tie the jugular.

#### **A Palate Retractor.**

DR. JOSEPH A. WHITE, of Richmond, Va., exhibited his palate retractor, and explained the proper method of using it. He had never seen a case from six years of age up on which he could not use the instrument. He also exhibited a convenient handle that he had devised for use with the cold snare, the hot snare and for various other purposes. He likewise exhibited his electric saw, a direct acting instrument which would not stop even though pressure were made. An improved scissors and a half retaining tongue depressor were also shown.

#### **A Peculiar Enlargement of the Turbinals.**

DR. C. P. LINHART, of Columbus, Ohio, reported this case. The patient was a man of forty-five years having a large tumor involving the anterior turbinate and completely occluding the nostril. Two other surgeons had seen the growth and had made a diagnosis of sarcoma. Dr. A. B. Duel, of New York, had doubted the diagnosis, and had submitted a large section of the growth to Dr. Jonathan Wright, who reported the growth to be a granuloma. Dr. Duel had then removed the whole of the inferior and part of the middle turbinate, and had sent the man back to Dr. Linhart. The wound had not healed well. There was no history of syphilis,

but potassium of iodide was given in increasing doses, and under this treatment the improvement had been most rapid, so that within three weeks the nasal trouble had practically disappeared. At present the case was practically well.

#### **A Brief Report of a Case of Tic-Douloureux.**

DR. F. H. KOYLE, of Hornellsville, N. Y. This paper appeared in full in *THE LARYNGOSCOPE*, October, 1900, page 253.

DR. LESTER asked what was the condition of the pupils, and also in giving the exercise, was attention paid to the heterophoria.

DR. KOYLE replied that both pupils were apparently normal. In the exercises he had given attention first to the hyperphoria.

#### **Glandular Complications of Acute Follicular and Acute Suppurative Tonsillitis when Accompanied with Grip.**

DR. WENDELL C. PHILLIPS, of New York, read this paper in abstract. He said that during the past spring, follicular and tonsillar affections were specially frequent at the time of the prevalence of the grip. In his own cases the deeper glandular structures had been involved, and the inflammation had been very severe. All of the cases had had the grip, and nearly all had previously had follicular tonsillitis. The history was usually that of the grip with follicular tonsillitis, pain in the neck, extensive swelling and rise of temperature. About one-half of the cases had suppurated, and had required operation. In two cases it had been necessary to dissect out the entire gland. Adults seemed to be more frequently affected than children, but age and sex had exerted no influence on the result. Examination of the pus in one case showed numerous long streptococci. No doubt the infection had reached the glands through the lymphatics.

#### **DISCUSSION.**

DR. N. L. WILSON said that he had seen several such cases, not only involving the glands, but the sinuses. They had been especially prevalent this winter following the grip.

DR. R. C. MYLES said that this also had been his experience. Apparently it was the result of the attenuated poison of the grip. For some reason this special infection had seemed to penetrate very quickly into the deep lymphatics.

DR. C. W. RICHARDSON said that he had seen only one case of this kind during the past winter, although he had seen an unusually large number of cases of follicular tonsillitis. The infection in Washington had been milder than in previous years.

DR. PRICE-BROWN had met with more throat trouble in Toronto the past winter in connection with the grip than usual but cases of suppuration had been no more frequent, although glandular enlargement had been very common.

DR. JOACHIM said that in his part of the country tonsillitis had been much more prevalent during the past winter than usual, yet he had not met with any unusual degree of involvement of the deep cervical lymphatic glands. However, other complications, such as acute otitis media, had been remarkably prevalent.

DR. W. H. DALY asked if there had been any deposit on the tonsils, either fibrinous or diphtheritic.

DR. PHILLIPS replied in the negative.

DR. W. H. DALY said that the cases that he had seen had been complicated rather with rheumatic conditions. Generous doses of the compound liquor of iodine, both internally and locally, had given him the best results. The underlying condition seemed to him rather rheumatic than the grip. The grip was credited with doing more harm than was really the case.

DR. J. A. STUCKY, of Louisville, Ky., said that there had been an epidemic of this follicular trouble in Kentucky. He had not been able to ascribe it to the grip. Anti-rheumatic remedies had given good results.

DR. S. MACCUEN SMITH, of Philadelphia, said that there had seemed to be a rheumatic element in most of the cases that he had seen, and in addition to the follicular condition, there had been some extension to the larynx. His cases had done best under anti-rheumatic treatment.

DR. L. C. CLINE said that he had observed an unusual number of cases of follicular affection in his part of the country, and an unusual proportion of them had suppurated. Many of his patients had improved promptly under the use of sodium salicylate together with local treatment with guaiacol in full strength.

DR. JOSEPH S. GIBB said that he had seen a number of cases of tonsillitis of the follicular form in Philadelphia, but none in which the deep glands had been involved. He had also seen a number of cases in which the sinuses had been involved.

DR. PHILLIPS, in closing, said that his treatment had consisted in an initial dose of calomel, followed by salol or bicarbonate of soda with enough phenacetin to control the pain.

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## THIRTEENTH INTERNATIONAL MEDICAL CONGRESS.

### SECTION OF LARYNGOLOGY AND RHINOLOGY.

*Summary of Proceedings—Sessions of August 4, 1900.*

*(Proceedings continued from page 369.)*

#### **The Indications for Thyrotomy—SIR FELIX SEMON (London).**

Thyrotomy is an operation uncommonly performed, but until lately but slightly esteemed. Of late it has been more generally utilized on account of improvement of technique, decreased danger and better results.

*Special Indications.*—In most cases alternative operations may be performed, such as intralaryngeal operations, dilatation, intubation, etc. :

1. Foreign bodies in the larynx should never be permitted to remain enclosed in the larynx for a long time.

2. Wounds of the larynx. Fractures, gun-shot wounds, suicide wounds.

3. Laryngocele. Indications rare.

4. Stenosis of the larynx. Sometimes (for example in syphilitic fibroid thickening of the mucous membrane) thyrotomy followed by excision of the tumefied portions gives good results. However, it is impossible to guarantee the result. Possibility of a return of the stenosis.

5. Acute perichondritis of the cartilages of the larynx. Indication rare, but result sometimes excellent.

6. Tuberculosis and lupus of the larynx. Goris has laid down the indications. Result is sometimes satisfactory, but there is often danger of tuberculous infection of the surgical wound.

7. Scleroma of the larynx. Thyrotomy is apparently the best method, but it does not give a certain protection against recurrence.

8. Benign neoplasms of the larynx. The intralaryngeal method is without doubt preferable when it can be employed, but there are some exceptions to this rule. Discussion of this eventually. Necessity of individualizing each case. Thyrotomy does not offer a guarantee against recurrence of multiple papilloma.

9. Malignant neoplasms of the larynx. The removal of these neoplasms at the beginning and when they are strictly limited to the interior of the larynx (intrinsic cancer and sarcoma) is at present the most important indication for thyrotomy. Danger of erroneous statistics. Discussion on the relative value of the intralaryngeal method and extirpation of the larynx as compared with thyrotomy. Great value of the latter when the diagnosis has been made in time and when the cases are judiciously chosen for operation.

#### **Technique of Thyrotomy—E. SCHMIEGELOW (Copenhagen).**

The operation, which ought to be preceded by tracheotomy, should be performed under deep anesthesia.

The tracheal canula should be made in such a manner that aspiration of blood during the operation is prevented. Hahn's canula is the best. After opening the larynx by incision of the thyroid cartilage, it is necessary to tampon the inferior portion of the pharynx with a sponge, thereby preventing the saliva from falling into the larynx. A solution of cocaine may be used to reduce the sensibility of the mucous membrane of the larynx.

When the operation is completed and the hemorrhage arrested, the interior of the larynx is powdered with iodoform. The wound is entirely covered with cotton and iodoform gauze, which is changed several times a day. The patient should be put to bed in as horizontal a position as possible, and after five or six days healing will be sufficiently advanced to permit the patient to leave his bed.

#### **The Immediate and Remote Results of Thyrotomy—GORIS (Brussels).**

In order to review results that are comparable, a circular letter was addressed to specialists in which they were asked to signify the various diagnoses, the age, sex, the exact seat of the disease, the disease, the general state of the patient at the time of operation, the procedure employed, and, finally, the immediate and later results of intervention. A resumé of the information received shows the following:

Sixty-two for malignant tumors of the larynx; 14 for tuberculosis; 25 for benign tumors; 2 for stenosis; 1 for foreign body; 1 for rhinoscleroma.

Four of the 105 cases succumbed to pneumonia within a week after the operation. Thyrotomy, therefore, belongs to the category of benign operations, as the death-rate is less than 4 per cent.

*Thyrotomy for Malignant Growths.*—1. Sex. Malignant tumors affect males more frequent than females. Of the 62 cases 55 were males; 3 females, and in 4 the sex was not reported.

2. Age. Below 30 years, 0; 30 to 40, 4; 40 to 50, 14; 50 to 60, 20; 60 to 70, 18; 70 to 75, 4; not stated, 2.

3. Voice. The results in this regard vary, depending upon the extent of the operation. In the main, removal of one vocal cord permits the utterance of some sound. In some cases, the voice continues excellent after removal of cord, on account of the formation of a cicatricial band.

4. Remote results. Sarcoma has been included with carcinoma, although the tumors have a different malignancy, for the number of sarcomata is too small to influence the statistics. From the 62 cases it will be necessary to subtract 7 in which extirpation of the larynx was performed. The writer includes in his statistics the cases in which at the time of the performance of the thyrotomy, a portion of cartilage was removed. In these cases the thyrotomy remains the important intervention, and the resection the accessory operation. Finally, the statistics include some cases in which the operation has been too recently performed to ascertain the value of thyrotomy (4 of Chiari and 2 of Moure). There remain then 49 cases, giving the following results:

Surviving more than 10 years, 1 (Boeckel); from 5 to 8 years, 8; from 2 to 5 years, 14; total, 23.

Or a percentage of 46.9, which may be considered as cures, there were seven cases in which no recurrence took place within a year.

*Thyrotomies for Tuberculosis.*—These results are less brilliant. Only three cases out of fourteen can be considered as cures. In the other cases the operation induced a more rapid development of the disease.

*Thyrotomies for Benign Tumors and Stenosis.*—The results from the standpoint of voice are variable, but in general they are good. Diffuse papilloma is the condition which most frequently called for the operation; while recurrence was not entirely prevented, it is the operation of choice. In two cases of stenosis of the larynx, one was cured; in the other, normal respiration through the larynx could not be obtained.

In one case of rhinoscleroma, extending to the larynx, Chiari obtained complete cure by excising the subglottic tumefaction.



**Indications for Operation in Cancer of the Larynx**—A. GOUGENHEIM (Paris) and E. LOMBARD (Paris).

Owing to the many clinical aspects of cancer of the larynx, no fixed rules of treatment can be made. Not only the age and condition of the patient, but also the character, size and location of the growth must be considered.

New methods of operation have been suggested and encouraging statistics published, but no concensus of opinion has yet been reached.

Three classes of malignant neoplasms of the larynx may be named: (1) inoperable; (2) operable; (3) cases in which the rapid growth of the neoplasm made interference impractical, or where serious organic lesions complicated the local conditions. The patient's power of resistance must also be considered.

Patients affected with serious organic lesions, as diabetes, albuminuria, and especially cardiac or pulmonary lesions, should be classified as inoperable cases. To this class should also be added cases with considerable secondary involvement of glands. In these cases tracheotomy is indicated.

For operable carcinoma of the larynx, four methods of operation were to be considered: (1) endo-laryngeal operations; (2) tracheotomy; (3) laryngo-fissure; (4) laryngectomy.

There are three conditions favoring endo-laryngeal operations: (1) Certain varieties of cancer of the larynx, showing no tendency to spread. (2) This limitation in area of the growth is observed mainly in old people, and in advanced age such extensive operative interference may not be deemed advisable. (3) The variety of pedunculated epithelioma occurring in the larynx, demanding quick removal to prevent suffocation.

In the author's opinion the main usefulness of endo-laryngeal operation was for diagnostic purposes only, for to completely extirpate even the smallest malignant neoplasm the endo-laryngeal method was impractical.

Tracheotomy was the last resort in inoperable cases. Tracheotomy appeared to produce a restful effect in cases of laryngeal cancer and tended to retard the growth. In operable neoplasms, however, thyrotomy or laryngotomy were demanded.

It is urged that every laryngeal neoplasm, no matter how benign it might appear, should be carefully studied. When a diagnosis of carcinoma is made the method of operation should be selected according to the conditions of the case.

At present thyrotomy and partial laryngectomy were the most successful operations. Simple thyrotomy (laryngo-fissure) with removal of the soft parts has a limit range of application; partial laryngectomy was useful in a larger class of cases. Laryngo-fissure was adapted to neoplasms of limited area which had not spread to the arytenoid regions, anterior commissure, sub-glottic area or trachea. As a laryngoscopic examination offers but meagre data as to the area of a growth, laryngo-fissure was frequently an exploratory operation or the early stage of more extensive procedures.

Where a malignant tumor invaded an entire vocal cord or ventricular band, or had perhaps invaded the opposite cord or had spread to the sub-glottic area, or to the posterior wall of the larynx, involving the underlying tissues, the most free operation possible was indicated. Owing to the high death rate in total laryngectomy, however, partial laryngectomy is more often selected. The best results were obtained when the epiglottis, posterior wall of the larynx and the greater portion of the cricoid cartilage were left intact.

The importance of early diagnosis and early procedure was urged.

**Palliative Treatment of Cancer of the Trachea and Larynx—The Use of the Rubber Catheter as Tracheal Canula—A. COURTADE.**

The author reports the case of a man, æt. forty, general health good, voice subjected to constant strain; had an attack of bronchitis with aphonia, followed by a copious hemoptysis.

Tubercular laryngitis was diagnosed and the patient sent to Algiers, then to Eaux Bonnes and was compelled to leave a week later on account of suffocation. Condition of suffocation became aggravated and tracheotomy was performed. The operation only gave partial relief because no canula quite opened the air passages. Laryngoscopic examination revealed the presence of cancer of the trachea, extending up to the larynx. This explained the unsatisfactory working of the canula.

The patient was compelled to pass a rubber tube through the metal canula. This relieved him of all dyspnea. Soon afterwards the metal canula was discarded and only the rubber tube used. The patient carried this rubber tube for six months.

The palliative treatment of laryngeal cancer consisted of: (1) The introduction of suitable canula to produce easy respiration. (2) Check the hemorrhage by the use of perchloride of iron or peroxide of hydrogen. (3) Diminish the quantity and odor of the secretion by instillation of mentholated oil. Eucalyptus or tracheal sprays, the solutions of zinc chloride. (4) Prevention of granulation by swabbing with pyoktanin.

**Modern Surgery of the Larynx—GLÜCK (Berlin).**

The author describes his own methods of performing and technique of the major operations on the larynx:

1. Operation for stenosis and extensive cicatricial adhesions. This consisted of transverse resection and extirpations of all pathological tissues to clear the anterior esophageal wall. The sutures of the two openings in the trachea and larynx are then carefully approximated. The results obtained were excellent.

2. Technique of thyrectomy and total laryngectomy.

3. Operations for loss of tissue due to necrosis and exfoliation of the cartilages of the trachea. These were plastic operations with blank flaps with true transplantation.

4. Operations for diffuse malignant tumors of the larynx or its adnexa. Prognosis up to the present time was doubtful; most of the patients died of septic broncho-pneumonia due to inhalation of foreign bodies.

To prevent this complication the author had, in 1880 presented the thesis, "*In extirpation of the larynx, or more generally speaking, in all operations where death results from aspiration pneumonia, prophylactic resection of the trachea absolutely prevents the formation of broncho-pneumonic foci.*" This was now accepted by all surgeons.

The main idea of all modern prophylactic measures are to interpose between the operative area of the deeper respiratory passage a living barrier which should entirely prevent any aspiration of foreign bodies into the air passages.

Different phonetic types were produced in accordance with the size of the piece removed from the larynx. The author directed special attention to his phonetic apparatus.

For cases in which the trachea was entirely cut off from the nasopharynx, he had constructed a very simple and effective apparatus.

Tone was produced in this instrument by the air current during expiratory breathing, and was conducted to the speech apparatus by means of an India rubber tube. Thus, instead of an indistinct whisper the voice was loud and clear. This instrument was of great value, for by its use even aphonic persons wearing the tracheotomy tube could be restored.

(To be continued.)



## THIRTEENTH INTERNATIONAL MEDICAL CONGRESS.

### SECTION OF OTOTOLOGY.

*Summary of Proceedings—Sessions of August 6, 1900.*

*(Proceedings continued from page 374.)*

PROF. POLITZER presided.

#### **Lupus of the Face and Especially of the Auricle.**

LANG (Vienna) presented a number of patients operated for.

#### **Observations on Dry Otitis—M. MIOT (Paris).**

An operation should never be attempted in cases of panotitis; on the contrary, if there be synechias, an operation is apt to be favorable to the patient.

Deafness due to the muscular insufficiency of the muscles of the middle ear and Eustachian tube may be justifiably operated with benefit. The author enumerates and describes accurately the symptoms of this sort of disease. It is important, as a matter of fact, that an absolute diagnosis be made. When, in a patient affected with this form of otitis, the worse ear alone is operated upon, an increase in auditory acuity is noted not only on the operated side, but also in the other ear, especially by submitting it to faradisation and, better yet, to galvanization.

The best path for operating seems to M. Miot to be the external auditory meatus, except in those patients who have a small canal. The middle ear is left in place or it is removed together with the two large ossicles. To arrive to the place where the trouble is located the author prefers a large incision in the outer bony wall of the attic.

#### **Results Obtained in Sixty Cases of Chronic Dry Otitis Media by Petro-Mastoid Curetting—A. MALHERBE (Paris).**

In forty-one cases in which there was sclerosis secondary to catarrhal tubo-tympanites or to suppuration of the ear, the results were always good.

The ten other cases of primary sclerosis gave varying results according to the amount of involvement of the labyrinth. They were very good in two, good in six, fair in six and bad in five.

The author recalls the contra-indications to operative measures which he has already given and which are furnished by the study of cranial conductivity.

Five of the patients were operated successively on both ears, and the results were as satisfactory on one side as on the other.

The post-operative improvement of the hearing increases for a certain length of time, and then it appears to remain pretty stationary.

The author classifies chronic inflammation of the middle ear as: 1° hypertrophic interstitial tubo-tympanites; 2° atrophic sclerous antro-tympanites. There are also tubo-tympanites of nasal origin and others of pharyngeal origin; there are even mixed forms.

Finally, in the class of primary scleroses, there exists, besides scleromatous tympanitis *d'emblée*, a congenital form of precocious and rapid sclerosis which is especially observed in females, the precocious adhesive tympanitis.

#### **Surgical Treatment of Aural Sclerosis—SIEBENMANN (Bâle).**

The author answers the question as to whether the aural sclerosis can be treated surgically, in the light of our present knowledge, in the negative. Aurists are practically agreed that results are achieved only in conditions of hypertrophic catarrh, and those that are sequel to old suppurations, and that these results are by no means certain in these. The paper discusses elaborately the pathologic changes of the affection as contraindicated of operative procedure.

#### **Surgical Treatment of Aural Sclerosis—RICHARD BOTEY (Barcelona).**

Surgical treatment rarely does any good; it is permissible when the watch is heard by bone conduction, when Rinné is negative on the diseased side, and when hearing power is increased by perforation of the membrane. The author's experiments upon animals demonstrated the uselessness of the operation for in spite of care the region of the fenestra ovalis was disturbed, and the plate of the stapes became ossified and united to the fenestra ovalis.

Aural sclerosis being a tropho-neurosis with the formation of new connective tissue, chiefly in the labyrinthine capsule, around the fenestra ovalis, and in the cochlear canal, and the acoustic nerve being affected, it is certain that surgical treatment is of no use or of futility in nearly all cases.

(To be continued.)

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## SELECTED ABSTRACTS.

Edited by

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with the collaboration of the

EDITORIAL STAFF.

**Sarcoma of the Nasal Mucous Membrane, Etc.**—A. T. BRISTOW  
(Brooklyn)—*Brooklyn Med. Journ.*, October, 1900.

The patient at the examination presented a large tumor of the anterior naris; it filled the entire nasal space on the left side and the nostril was much bulged outward. Frequent bleeding occurred on slightest touch.

Under ether in Rosc's position, the naris was thoroughly curetted; furious bleeding. The naris was packed with iodoform gauze, which controlled the bleeding. Later a secondary curettement of the septum was done, and the bleeding was checked with gauze saturated with extract of suprarenal gland.

The pathological report showed the growth to be a melanotic sarcoma, though no return has been seen to date.

(There was a difference in the opinions of the gentlemen who examined specimens of the growth microscopically.)

M. D. LEDERMAN.

**Laryngectomy and Excision of Part of the Trachea**—A. T. BRISTOW (Brooklyn)—*Brooklyn Med. Journ.*, Oct., 1900.

A patient upon whom this operation was performed for cylindrical carcinoma, seventeen days before the meeting. The growth seemed endolaryngeal and the adjacent regions of the neck did not show any glandular enlargement. Preliminary asepsis was carried out: the teeth being cleansed and the fauces and naris frequently sprayed with an antiseptic solution. The operation was performed under nitrous oxide anesthesia, which the reporter believed much safer than ether or chloroform, and it did not cause such irritation of the bronchial membrane. It furthermore prevented vomiting, which was an important advantage when the pharyngeal sutures were considered. The Keen technique was employed. The tracheotomy was performed ten days before the extirpation of the larynx and tracheal tissue.

As soon as the larynx was clear from the other tissues the patient was placed in the Trendelenburg position and the trachea was cut through close to the tracheotomy wound. This position prevented the blood running into the trachea and rendered unnecessary the use of any canulæ. The operation is described in detail with notes of the laryngeal condition by Dr. T. R. French, supplemented by illustrations.

M. D. LEDERMAN.

**The Production of Local Anesthesia in the Ear**—ALBERT A. GRAY  
—*Lancet*, April 21, 1900.

In acute inflammation of the middle ear, no local anesthetic has as yet been found which is at all satisfactory; and the pain, which is often severe in this affection, has frequently to be relieved by incision either under a general anesthetic or, if without it, by subjecting the patient to indescribable agony, though it be only of short duration.

With a view to finding some vehicle which would dissolve cocaine (or eucaine, as suggested by Horne and Yearsley), and at the same time penetrate the tissues rapidly without destroying them, the author tried various solvents. The first which suggested itself was alcohol in the form of rectified spirits; but this was absorbed too rapidly, and, moreover, it caused in some cases rather severe burning pain before the cocaine took effect. Various combinations of the volatile oils with rectified spirits were next tried, but as these solutions were only to a slight extent miscible with water they proved unsatisfactory. Finally, he tried a mixture of anilin oil and rectified spirits, and this met the requirements of the case admirably. It penetrates rapidly, is miscible to a considerable extent with water, and does not destroy the tissues. For experimental purposes the following solution was used: 5 parts of cocaine hydrochlorate, 50 parts of dilute alcohol, and 50 parts of anilin oil. This gives a strength of a little less than five per cent of cocaine.

In conclusion, it may be well to indicate shortly the theoretical considerations which led to the results described above. This is important, because if they are kept in mind the surgeon may be able by various artifices, which a little imagination and a knowledge of elementary physical laws will suggest, to obtain the result he desires when a blind rule-of-thumb method of procedure has not been able to bring about this result.

To effect penetration through the outer layers of the tympanic membrane dehydrating agents are the most suitable. By abstracting the water from the tissues, the latter contract and the fluid passes through the interstices produced by this contraction into the deeper layers until it reaches the nerve-terminations in the innermost layer. Both alcohol and anilin oil are agents of this description, and for general purposes a solution composed as follows is best suited for the production of anesthesia: 5 or 10 parts of cocaine hydrochlorate, 50 parts of dilute alcohol and 50 parts of anilin oil. This solution is equally suitable for operations on the tympanic membrane, on granulations, or for the removal of ossicles. In the few cases in which we desire to operate upon a dense thickened membrane, the penetrating power of the solvent must be increased. This is best done by using absolute alcohol in place of rectified spirit and increasing the proportion of anilin oil, as shown in the formula above.

Further, the laws of osmosis must be kept in mind. Therefore, in order to effect penetration, a large proportion of the solution should be used. If this be not done, osmotic equilibrium is soon established and penetration will cease. In practice, the author



always fills the external meatus with the fluid, and has never seen any serious effects of cocaine poisoning by so doing. The worst that has occurred has been a trifling giddiness, that passed off in the course of not more than five minutes. Nausea was noted in one case, but it did not occur until more than two hours after the patient had left the dispensary, and as she was subject to such attacks, it is very doubtful if the cocaine was to blame. Palpitation has not occurred in any of the cases.

The rendering of the membrane transparent depends, of course, upon the laws governing the refraction and reflection of light. In ordinary circumstances the indices of refraction of the various constituents of the membranes are of very different magnitudes, and as these different constituents are in close juxtaposition, there is great reflection and dispersion of the light. By infiltrating the tissues with the anilin oil, they all come to possess the same index of refraction, or approximately so, and light penetrates the membrane much more easily. To effect this purpose, the oil should be mixed with as little alcohol as possible, though, of course, the process of penetration takes a longer time. Other substances might be tried for this purpose, such as clove oil and glycerine; but the author has not carried out investigations in this direction very far, and cannot speak with any degree of certainty in the matter.

The beneficial effect which anilin oil seems to exercise upon suppurative affections of the middle ear is probably due to its power of extracting water from the tissues, the same principle, in fact, as that to which rectified spirit owes its value. Anilin oil dehydrates more slowly, however, and is also more slowly absorbed; further, it is not so volatile, and its effect is less violent, but lasts longer. In practice it will be found that the mixture of equal parts of anilin oil and spirit is very suitable. Ten or 15 minims may be dropped into the ear and left there in the usual way once or twice daily. Various antiseptics may be dissolved in the solutions, but they do not seem to do much good, and some of the more powerful ones may do harm. Anilin oil seems especially indicated in cases where there are cholesteatomatous masses and much debris. It softens these masses, and aids in breaking them down probably by its great power of dissolving fats and oils.

The method of producing local anesthesia described in this paper is, of course, applicable to other mucous surfaces. The author used it for throat work; and although there is at first a slight burning sensation, the subsequent anesthesia is more complete than with the aqueous solution. A 5 per cent solution is quite strong enough for throat work, and, owing to the large surface for absorption, he never uses it stronger. Another useful solution in throat work is a 5 per cent solution in equal parts of glycerine and rectified spirit.

The writer is indebted to Professor Stockman for some interesting facts concerning the pharmacology of anilin oil. Of these, the most important is that the medicinal dose is 7 minims. Care therefore should be taken that not more than this amount may be absorbed, though in the ear such a contingency is very unlikely.

STCLAIR THOMSON.

**Diphtheria in the Horse**—LOUIS CORBETT—*Lancet*, August 25, 1900.

On May 22, 1900, Dr. A. Mearns Fraser, the Medical Officer of Health of Portsmouth, supplied a culture of a bacillus which he had obtained from the nasal discharge of a pony. The history was as follows: A little girl having fallen ill of diphtheria, Dr. Fraser, while seeking the source of the infection, found that a pony belonging to the child's father was ill with a purulent and slight sanguinous discharge from its nose. Subsequently the animal suffered from enlargement of the glands under the tongue and laryngeal obstruction, with difficulty of breathing and retraction of the abdominal wall, and a bacillus obtained from the nasal mucus having been pronounced morphologically indistinguishable from the diphtheria bacillus the animal was killed.

The bacillus isolated from the culture sent had the usual appearance and habit of growth of the bacillus diphtheriæ. It belonged to the short variety. It did not liquify gelatin, it formed acid in media containing glucose, it clouded beef-broth and subsequently cleared it, and, like many diphtheria bacilli, freshly isolated from man, it formed only a scanty film on the surface. It was pathogenic to guinea pigs, causing local hemorrhagic edema and the general symptoms which are seen in these animals when they are inoculated with the bacillus diphtheriæ. It formed a powerful toxin, the filtrate from broth cultures causing a little edema at the seat of inoculation, followed in about ten days by falling out of the hair in the neighborhood, widespread hemorrhagic edema and necrosis of the tissues immediately affected, or death, occurring sometimes within twenty-four hours, according to the quantity of poison injected. The effect of injecting large doses of living culture, or even 100 fatal doses of filtrate was completely neutralized by diphtheria antitoxin.

Experiments were carried out which placed it beyond doubt that the bacillus obtained by Dr. Fraser from the pony was a true diphtheria, and it is concluded that the horse is liable to nasal and laryngeal diphtheria. The discovery is not only of practical but also of scientific importance, because it has a direct bearing on the question of the origin of antitoxin.

The fact that diphtheria antitoxin is present in many horses in this country and on the Continents of Europe and America suggests that diphtheria is a common disease among these animals; and this is in accordance with the well-known susceptibility of some of them to the action of diphtheria toxin. It is therefore possible that the horse may be found to play a not inconsiderable part in the transmission of diphtheria.

STCLAIR THOMSON.

**Carcinoma of the Tonsil**—E. A. MONTENYOHL—*Internal. Journ. Surg.*, July, 1900:

After remarking that of all the tissues of the body that are invaded by the ravages of cancer, the tonsil is the last tissue to be implicated, the author reports a case occurring in a woman aged forty-four. At the first examination he found a condition of affairs ordinarily seen in hypertrophied tonsil on the left side. Upon palpation there was a feeling of extreme hardness, and, on account of the marked induration and age of the patient, he suspected a malignant condition. Later he became convinced of this, but the patient would not permit operation. In less than a year her condition was desperate, breathing difficult, and the characteristic carcinomatous cachexia well marked while the glands of the neck were much enlarged. Patient died thirteen months after the first examination and microscopic examination of the growth showed it to be a typical epithelioma.

EATON.

**A Case of Sudden Blindness Subsequent to Cauterization of the Nose**—A. R. BAKER—*Cleveland Med. Gazette*, Nov., 1900.

Patient a man of thirty-one years, and married; no syphilitic history. Middle turbinated body on right side cauterized for what was diagnosed as hypertrophic rhinitis, followed in a week by a second cauterization. Pain developed on same side of face and back of eyeball. Two decided chills and a rise in temperature were present, and with a tendency to somnolency.

Three weeks later blurring of sight of right eye, which gradually progressed, when, after three days, total blindness was present. Three days following this dimness of left vision became apparent.

A large, offensive smelling, grayish-green slough filling the right nostril was removed with difficulty, leaving a bleeding, ulcerated surface.

Patient put on iodide of potassium and bichloride of mercury, increasing doses. On the fourth day improvement commenced, and in six weeks' time his vision was again normal.

STEIN.

**Excision of External Carotid for Inoperable Epithelioma of the Floor of the Mouth**—J. A. BLAKE—*Internat. Journ. of Surg.*, Nov., 1900.

The aim of the operation is to cut off the blood supply to the mouth to a certain extent. The author quotes Dawbarn as operating by this method twenty-four times with good results. In the case of epithelioma it is done as a palliative of pain. Both external carotids are excised with an interval between. The technique of the operation is described.

EATON.



**The Present State of Our Knowledge of Asthma, etc.**—W. A. WELLS (Washington)—*N. T. Med. Journal*, Oct. 2, 1900, and Oct. 20, 1900.

The pathogenesis of asthma has narrowed down to two factions—those who believe that vasomotor disturbances in the pulmonary circulation is the essential cause of the attacks; and, secondly, those who hold that the asthmatic paroxysm is due to spasm of the bronchial muscles.

The nose being so richly supplied with filaments of the sympathetic, derived from the spheno-palatine ganglion, is probably the most common source of reflex asthmatic attacks.

That the mind exerts a potent influence in this disease is shown by these cases which are plainly due to strong emotional shock.

In this very interesting and exhaustive paper the author divides the treatment of the affection into two parts: (*a*) treatment of the paroxysm and (*b*) treatment according to cases.

For the paroxysm a hypodermic injection of morphia and atropia is the standby; pilocarpin, hydrochloride of hyoscine, and ether have been employed with good results in the same manner. For those suffering from the uric acid diathesis, the author extols the internal administration of piperazine. Lithia salts can be given during the intervals.

LEDERMAN.

**Hypertrophy of the Turbinated Bodies, etc.**—C. R. HOLMES (Cincinnati). *N. T. Med. Journ.*, Sept. 29, 1900.

Where the snare and caustics fail to give satisfactory results the author removes the obstructing turbinal with a long slender snare. His object is to produce a bone scar which will permanently prevent the lower fossa from being occluded. Beckman's scissors have also proven satisfactory in operations upon the turbinals. The author further remarks that these operations are spoken of in too light a manner by operators to their patients. He avoids packing the nose after the operation, but insists upon the patient remaining in the hospital or at rest for two days or more. Attention is called to the preliminary packing of the nose with cocaine, for much depends upon this procedure for the painlessness of the operation. As little of inferior turbinal should be removed as is consistent with the restoration of sufficient breathing space.

**Hypertrophy of the Turbinated Bodies, Etc.**—C. R. HOLMES—*N. T. Med. Journ.* (Continuation) Oct. 13, 1900.

In this number the author's excellently illustrated paper is concluded.

Wet sections are photographed, and the steps of the operation carefully detailed. The author's duck-bill scissors for removing the turbinals are shown.

Attention is drawn to the relation of inflammation of the turbinals to pharyngeal and middle ear catarrh.

The author never operates upon both sides of the nose at the same sitting.

LEDERMAN.

**Bullous Enlargement of the Middle Turbinals (Concha Bullosa)**

J. P. CLARK (Boston) *N. Y. Med. Journ.*, October 20, 1900.

Four cases of this interesting condition are recorded. This enlargement is more frequently found in the female and gives rise to headache, sometimes accompanied by a sense of pressure in the nose. The pain is generally of a neuralgic character and may take the form of a hemicrania.

The diagnosis is readily made on examining the nose and finding a rounded swelling situated in the region of the middle turbinal, which is not soft to the touch.

Removal with the cold wire snare, conchotome or cutting forceps is the only rational treatment. Hemorrhage is usually insignificant.

LEDERMAN.

**Displacements of the Eyeball by Disease of the Frontal and Ethmoid Sinuses—Two Cases—S. D. RISLEY—*International Med. Magazine*, October, 1900.**

The first case was a boy of eleven years, in good health, but with his left eye displaced outward and slightly downward. An exostosis of the orbital rim in the region of the lachrymal sac and a cyst of the lachrymal sac existed. The duct into the nose was opened. This condition began three years before. On operation the ethmoid cells were found distended and their wall encroaching upon the orbit. The cells were opened allowing an escape of a glaring and lead-colored substance. The wall was forced back into place and the parts drained, recovery taking place rapidly. Examination of the nose and throat at no time revealed anything of importance.

The second case was one of marked exophthalmos with downward and inward displacement of left eyeball, in a mulatto woman of fifty-two years. The trouble existed nine years. Five years after appearance it improved very much under large doses of iodides, but after nine years was worse than ever. Palpation revealed a firm nodular mass occupying the upper and outer two-thirds of the orbit. On operation this mass was ruptured in an effort to dissect out, and allowed the escape of a large quantity of dark, lead-colored glairy substance without odor. A probe passed from this cavity into the frontal and ethmoidal sinus. An incision was made over the bridge of the nose and an opening effected into the frontal and extended into the ethmoid cells and these were then drained through the nose. The eyeball resumed its normal position, is perfectly healthy and has good vision. One of the interesting features in both of these cases is the lack of any sign or symptom of the sinus trouble by thorough examination of the nose. It would have been interesting to have had both a microscopical and bacteriological examination.

STEIN.

**Vertigo of Meniere**—URBAN PRITCHARD (London)—*Journ. of Laryngol.*, Sept., 1900.

In a very practical paper upon this subject the author divides the affection into two classes:

The apoplectiform, when it occurs, is a severe seizure, which at once practically destroys the auditory function of the ear attacked. The lesion being probably a hemorrhage or a severe congestion, and may involve the anterior as well as the posterior labyrinth.

The second class is the epileptiform, which is characterized by recurrent attacks, and tends to run a course of two or three years gradually passing off, as the function of the ear becomes destroyed. These variations are not necessarily connected with cerebral disease of similar names.

Meniere's vertigo is associated with middle ear catarrh. Bromides and hydrobromic acid, together with rest and tonic treatment, plus local attention, will often afford great relief.

LEDERMAN.

**On the Ring of Waldeyer Considered as a Road of Entry for Microbial Affections**—PIRERA—*Archivii Italiani di Laryngologia*, April, 1900.

From experimental work the author arrives at the following conclusions:

- (a) There is no absorption by the tonsils.
- (b) Absorption is more affected, though not exclusively, by the lacunæ.
- (c) Saprophytic micro-organisms pass through like granules of coloring matter, and perhaps more easily.
- (d) Pathogenic germs (staphylococcus aureus) have shown greater diffusion in a normal tonsil.
- (e) It seems to be necessary that the structure of the tonsillar parenchyma should be intact for the gland to be more infiltrated, and on the other hand the stage of hyperplasia or still more a phase of fibrosis may contribute to arrest the micro-organisms in their work of diffusion and obstruct the absorption of the extraneous matters on the part of the tonsils.
- (f) The palatine tonsils may be regarded as one of the most accessible routes of entry for microbial affections.

FERRERI. (Translated by St Clair Thomson).

**Papilloma in the Vestibule of the Nose**—REALE—*Archivii Italiani di Laryngologia*, April, 1900.

On the inner wall of the right naris a mass was observed as big as a centimeter, and a millimeter in height, bright red, and recalling the clinical aspect of an acuminate condyloma. The patient had several condylomata on the prepuce. Prof. Massei saw the patient with the author and confirmed the diagnosis of acuminate condyloma. This was confirmed by the microscope.

FERRERI. (Translated by St Clair Thomson.)



## BOOK REVIEWS.

**Bulletin de la Societe Belge D'Otologie, de Laryngologie et de Rhinologie, Publie par les soins du Bureau**—Dr. L. ROUSSEAU, President; Dr. Henniebert, Secretary. Fifth year. Brussels: C. Bulens, 75 Rue Terre-Neuve, 1900.

We are indebted to our colleague, Dr. Henniebert, for so promptly publishing and forwarding to us the transactions of the Belgian Society of our specialty, containing the full reports of the proceedings at the annual meeting held at Brussels in June last. Some of the communications have already been scattered through the various journals, but every student of Oto-Laryngology should have this complete collection in his library. The set subjects for discussion—on the antitoxin treatment of diphtheria and on lupus of the nose—are most fully treated, and the debates contain many points of interest. The communications are chiefly of a clinical and practical character and are not too prolix. Some of them are well illustrated.

ST CLAIR THOMSON.

**A Treatise on Diseases of the Nose and Throat.** By ERNEST L. SHURLEY, M.D., Vice-President and Professor of Laryngology and Clinical Medicine, Detroit College of Medicine; Laryngologist and late Chief of Staff, Harper Hospital; Consulting Laryngologist, St. Mary's Hospital, etc. Octavo, pp. xvii—744. Cloth, \$5.00; sheep, \$6.00. New York: D. Appleton & Co. 1900.

Perhaps none of the recently published text-books on diseases of the nose and throat are as well adapted to the needs of the general practitioner and to the specialist alike as is this volume. The author is well qualified, not only as an experienced laryngologist, but as a general practitioner of long-standing, to present these specialties for consideration along the broadest lines. It is this feature which adds especial strength to the work, for each subject is viewed, not only in its limited field, but in its relations to the general system.

Another feature which deserves special comment is the completeness with which the several subdivisions of the subject are considered. Among these special mention should be made of the excellent chapters on acute rhinitis, diphtheria, a summary of our present knowledge of hay fever, the several neuroses, and the question of tuberculosis of the upper-air passages, mainly embodying the experiences of the author. The chapter on intubation is of unusual value because it offers the clearest and best presentation, together with a series of beautiful full-page illustrations of the technique and pathology of this subject.

Attention should also be directed to the author's numerous references to the researches and reports of American investigators to which he gives preference.

The laryngologist will recognize the many merits of this volume without further comment, and to the general practitioner it is heartily recommended because of its broad and clear conception of the special fields with which it is concerned. The publisher should be complimented for the unusually clear execution of illustrations and excellent general typography.

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